

all

1

AN 94115962. 94044.

AU Miller-C-H. Zhang-Z. Hamilton-S-M. Teel-R-W.

IN Department of Physiology and Pharmacology, School of Medicine, Loma Linda University, CA 92350.

TI Effects of capsaicin on liver microsomal metabolism of the tobacco-specific nitrosamine NNK.

SO Cancer-Lett. 1993 Nov 30. 75(1). P 45-52.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Chemically-induced mutagenesis and carcinogenesis is modulated by various plant products, some of which are present in the human diet. 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK), a potent carcinogen in tobacco and tobacco smoke, is activated by microsomal enzymes. In this study, we investigated the effects of capsaicin on the in vitro metabolism of NNK. Capsaicin is the principal component of Capsicum fruits used widely by humans as a food additive. Liver microsomes from saline-injected, phenobarbital-induced and beta-naphthoflavone-induced hamsters were used. Microsomes from phenobarbital and beta-naphthoflavone-induced animals expressed decreased NNK reduction and enhanced pyridine-N-oxidation, but did not significantly alter alpha-carbon hydroxylation of NNK. Capsaicin (0.5 mM) inhibited the formation of all metabolites of NNK by all microsomal fractions and inhibited alpha-hydroxylation by phenobarbital-induced microsomes more than by either of the other two treatments. Our results suggest that capsaicin, as a naturally occurring dietary constituent, possesses *antimutagenic* and anticarcinogenic properties through the inhibition of xenobiotic metabolizing enzymes. Author-abstract.

2

AN 94112989. 94043.

AU Li-R-Z. Pei-H-P. Ji-X-J.

IN Institute of Materia Medica, Chinese Academy of Medical Sciences, Beijing.

TI *`Antimutagenic* activity and metabolic transformation of ranunculin by rat liver microsomes:.

SO Yao-Hsueh-Hsueh-Pao. 1993. 28(7). P 481-5.

JT YAO HSUEH HSUEH PAO ACTA PHARMACEUTICA SINICA.

PT JOURNAL-ARTICLE (ART).

AB Ranunculin (RAN) was shown to be an *antimutagenic* agent selectively against mitomycin C (MMC) or methyl methane sulfanate (MMS) treated Salmonella typhimminum TA100/TA102. It decreased the formation of micronucleus of MMC induced polychromatic erythrocytes (PEC) from 46 +/- 9.2% to 20 +/- 6% in mice. The inhibition of RAN on the incorporation of 3H-TdR into DNA disappeared after incubation with rat liver microsomes and cytoplasm since RAN was found to be metabolized by rat liver microsomes in vitro, resulting in a new

absorbance peak at 258 nm, determined by RP-HPLC. The data show that RAN may have both *antimutagen* and antitumor activity, but the latter action may disappear by metabolic transformation. Author-abstract.

3

AN 94105381. 94042.

AU Kovacs-A. Gal-P. Zavodszky-P.

IN Institute of Enzymology, Hungarian Academy of Sciences, Budapest.

TI A simple method to assess in vivo repair of ultraviolet radiation-induced lesions of specific DNA sequences of restriction sites.

SO Radiat-Res. 1993 Dec. 136(3). P 397-403.

JT RADIATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Based on the direct relationship between ultraviolet irradiation of DNA and its susceptibility to restriction endonucleases, we have devised a simple method to quantify in vivo damage and repair of selected restriction sites. The simplicity and power of the method were demonstrated with HindIII restriction endonuclease and pAc360-501-beta-gal plasmid in UV-irradiated Escherichia coli cells. The large number of available restriction endonucleases makes the method quite flexible. This method provides a simple and inexpensive means to screen mutagenic and *antimutagenic* drugs that interact with the DNA repair mechanism. Author-abstract.

4

AN 94104648. 94042.

AU Sasaki-Y-F. Sakaguchi-M. Yamagishi-T. Yamada-H. Shirasu-Y.

IN Laboratory of Genetics, Faculty of Chemical and Biological Engineering, Hachinohe National College of Technology, Aomori, Japan.

TI Bio-anticlastogenic effects of unsaturated fatty acids included in fish oil--docosahexaenoic acid, docosapentaenoic acid, and eicosapentaenoic acid--in cultured Chinese hamster cells.

SO Mutat-Res. 1994 Jan. 320(1-2). P 9-22.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Bio-anticlastogenic effects of unsaturated fatty acids--cis-4,7,10,13,16,19-docosahexaenoic acid (DHA), cis-7,10,13,16,19-docosapentaenoic acid (DPA), and cis-5,8,11,14,17-eicosapentaenoic acid (EPA)--on chemically induced chromosome aberrations were studied in cultured Chinese hamster cells. The induction of chromosome aberrations by the crosslinking agents mitomycin C (MMC) and cisplatin (DDP), the SN-1 type alkylating agents N-ethyl-N'-nitro-N-nitrosoguanidine (ENNG), methyl nitrosourea (MNU), and ethyl nitrosourea (ENU), and the SN-2 type alkylating agent ethyl methanesulfonate (EMS), but not by the SN-1 type alkylating agent N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) and the SN-2 type alkylating agent methyl methanesulfonate (MMS), was suppressed by post-treatment with DHA, DPA, and EPA. Since there was no opportunity to inactivate mutagens by desmutagenic mechanisms

under the post-treatment schedule used, the results demonstrate the bio-anticlastogenicity of unsaturated fatty acids. Suppression by the unsaturated fatty acids was observed when cells were treated during the G2 phase, suggesting that G2 events were responsible for the bio-anticlastogenic effects. Two saturated fatty acids with the same number of carbons as the studied unsaturated fatty acids--docosanoic acid and eicosanoic acid--did not affect chromosome aberration induction, suggesting the necessity of unsaturation for fatty acid bio-anticlastogenicity. Author-abstract.

5

AN 94101652. 94042.

AU Trizna-Z. Schantz-S-P. Lee-J-J. Spitz-M-R. Goepfert-H. Hsu-T-C. Hong-W-K.

IN University of Texas M. D. Anderson Cancer Center, Department of Medical Oncology, Houston 77030.

TI In vitro protective effects of chemopreventive agents against bleomycin-induced genotoxicity in lymphoblastoid cell lines and peripheral blood lymphocytes of head and neck cancer patients.

SO Cancer-Detect-Prev. 1993. 17(6). P 575-83.

JT CANCER DETECTION AND PREVENTION.

PT JOURNAL-ARTICLE (ART).

AB The protective effects of ascorbic acid (AA), n-acetyl-l-cysteine (NAC), alpha-tocopherol acid (ATA), alpha-tocopherol-acid succinate (TAS), and 13-cis-retinoic acid (CRA) on mutagen-induced chromosomal breakage were studied. Mutagen-sensitivity was determined by the bleomycin assay in human lymphoblastoid cell lines (LCLs) and cultures of peripheral blood lymphocytes (PBLs) from head and neck cancer patients. Preincubation with chemopreventive agents statistically significantly decreased mutagen-induced chromatid breakage in LCLs and PBLs in a dose-related manner. As the concentration of the agents was increased in tenfold increments in the study range, mean breakage rates were reduced by 3.0 to 7.7% in LCLs and by 6.0 to 11.1% in PBLs. The effective concentrations are comparable to those achieved in clinical applications and found in human dietary studies. A similar phenomenon in vivo, if identified, may explain the differences in occurrence of head and neck and other cancers between populations with different dietary habits. The bleomycin assay may be used for studying compounds with presumed chemopreventive properties. Author-abstract.

6

AN 94098978. 94041.

AU Chopkiewicz-B. Marczevska-J. Koziorowska-J.

IN Drug Institute, Warsaw, Poland.

TI An evaluation of *antimutagenic* properties of vitamin E.

SO Acta-Pol-Pharm. 1991. 48(3-4). P 33-4.

JT ACTA POLONIAE PHARMACEUTICA.

PT JOURNAL-ARTICLE (ART).

AB The influence of vitamin E on the mutagenic activities of aflatoxin

and adriamycin was studied. The results indicate that vitamin E shows *antimutagenic* activity towards aflatoxin B1 only when homogenized with liver tissue. Author-abstract.

7

AN 94088210. 94034.

AU Krinsky-N-I.

IN Department of Biochemistry, Tufts University School of Medicine, Boston, MA 02111-1837.

TI Effects of carotenoids on cells.

SO Mol-Aspects-Med. 1993. 14(3). P 241-6.

JT MOLECULAR ASPECTS OF MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB When added to cells, carotenoids display a variety of properties, including inhibition of mutagenesis, genotoxicity, malignant transformation, and growth of tumor cells. In addition, carotenoids increase cell-cell communication, and may have direct effects as cellular antioxidants. Author-abstract. 37 Refs.

8

AN 94067205. 94031.

AU Durnev-A-D. Dauge-Dauge-N-O. Korkina-L-G. Seredenin-S-B.

IN Research Institute of Pharmacology of Russian Acad. Med., Moscow.

TI Peculiarities of the clastogenic properties of chrysotile-asbestos fibers and zeolite particles.

SO Mutat-Res. 1993 Dec. 319(4). P 303-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB It has been established that chrysotile-asbestos fibers and zeolite particles induce chromosome aberrations in human lymphocytes from whole blood cultures, peritoneal fluid cells and bone marrow cells of mice. It is shown that the level of cytogenetic response from the intraperitoneal administration of chrysotile-asbestos fibers and zeolite particles depends on the time of their exposure. Further, it is shown that SOD eliminates the cytogenetic effect of chrysotile-asbestos fibers, while catalase inhibits that of zeolite particles. Recommendations concerning testing for the mutagenic properties of mineral fibers and particles are given, and possible mechanisms of their damaging effects are discussed. Author-abstract.

9

AN 94062455. 94031.

AU Jin-Z-C.

IN Department of Pathophysiology, Zhejiang Medical University, Hangzhou.

TI `Inhibitory effects of garlicin and cinnamaldehyde on SOS response and their mechanisms in Escherichia coli:.

SO Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chih. 1993 May. 27(3). P 135-8.

JT CHUNG-HUA YU FANG I HSUEH TSA CHIH CHINESE JOURNAL OF PREVENTIVE MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB Inhibitory effects of garlicin and cinnamaldehyde on SOS response and their mechanisms in *Escherichia coli* were investigated. Garlicin and cinnamaldehyde suppressed the lambda cI depended SOS response induced by 4-nitroquinoline-N-oxide (4NQO), mytomycin (MMC) and methyl methane-sulfonate (MMS), and the lexA-depended SOS response induced by 4NQO and UV to various extent, respectively. They also diminished the rexA 441-depended SOS response induced by temperature (at 42 degrees C) However, they did not show any effect on the constitution of SOS functions. It suggested that this inhibitory effect could be via RecA protease which regulates the cleavage of lexA repressor, and perhaps, lambda cI repressor. Author-abstract.

10

AN 94049933. 94021.

AU Higashimoto-M. Purintrapiban-J. Kataoka-K. Kinouchi-T.
Vinitketkumnun-U. Akimoto-S. Matsumoto-H. Ohnishi-Y.

IN Department of Bacteriology, School of Medicine, University of
Tokushima, Japan.

TI Mutagenicity and antimutagenicity of extracts of three spices and a
medicinal plant in Thailand.

SO Mutat-Res. 1993 Nov. 303(3). P 135-42.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Three kinds of spices (caraway, coriander and black pepper seeds) and a medicinal plant called 'tong tak' in Thai (*Baliospermum axillare*, a species of the spurge family) were fractionated into hot water, methanol and hexane extracts. These extracts were not mutagenic for *Salmonella typhimurium* strains TA98 and TA100 by the Ames assay. However, when the extracts were treated with nitrite, samples of the water and methanol extracts were mutagenic for strain TA100 without metabolic activation. The mutagenicity of the nitrite-treated methanol and hot water extracts of black pepper was highest (8380 and 22,200 His+ per 0.1 g of spice powder, respectively), and that of the nitrite-treated hot water extracts of caraway and tong tak was moderate. The hot water extracts were examined for their *antimutagenic* activity against mutagenicity induced by various carcinogens by the Ames assay, using the preincubation technique. The tested samples (equivalent to 1-2 mg of spice powder) reduced the mutagenicity induced by 2.7 nmole (397 ng) of N-methyl-N'-nitro-N-nitrosoguanidine by more than 84%, and that induced by dimethylnitrosamine (1.48 mg) or ICR-170 (10 ng) by 30-60%. However, they did not inhibit the mutagenic activity of 1-nitropyrene, 3-nitrofluoranthene, AF-2, methyl methanesulfonate, N-ethyl-N'-nitro-N-nitrosoguanidine, 2-aminoanthracene, 2-acetylaminofluorene, benzo(a)pyrene or IQ. Author-abstract.

11

AN 94049917. 94021.

AU Chatterjee-A. Raman-M-J.

IN Cytogenetics Laboratory, Banaras Hindu University, Varanasi, India.
TI Protective effect of cysteine against X-ray- and bleomycin-induced
chromosomal aberrations and cell cycle delay.

SO Mutat-Res. 1993 Dec. 290(2). P 231-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The protective effect of cysteine was studied in muntjac and human lymphocytes in vitro scoring chromosomal aberrations in harlequin stained first cycle metaphases, induced by X-irradiation at G₀. Its protective efficiency was also studied against the radiomimetic clastogen, bleomycin, in muntjac cells. 30 micrograms and 1 mg/ml of cysteine were given prior to 2, 3, and 4 Gy, and 2 mg/ml prior to only 4 Gy. 30 micrograms cysteine protected only against deletions in 4 Gy-treated cells while 1 mg protected against deletions by all three doses of X-rays. However, rearrangements were not reduced significantly in any of these, probably due to their low frequency. But when cysteine was increased to 2 mg, both types of aberrations were reduced significantly. This shows that a sufficient number of aberrations and an optimum concentration of the protector are essential for eliciting the best protective effect. This conclusion is further supported by the results of 2 mg cysteine treatment in human lymphocytes which yielded higher frequencies of rearrangements with 2 and 3 Gy X-rays than 4 Gy in muntjac, but had a relatively lower frequency of deletions. Thus the most abundant categories of aberration, i.e., deletions in muntjac and exchanges in humans, were reduced significantly by 2 mg cysteine, associated with a prominent reduction in the frequency of aberrant metaphases. Therefore, the differential protection observed with a low concentration of the protector and an insufficient yield of aberrations induced only indicates protection provided to the most frequent type of aberration by a protector when present in lower concentration. Cysteine pretreatment yielded weak protection against the effects of bleomycin, but posttreatment caused a mild potentiation of the clastogenic effect of BLM without altering the cell cycle kinetics. In this context, an action of cysteine as a reducing agent on BLM is suggested. Although cysteine alone caused severe retardation of the cell cycle, when given prior to X-irradiation, not only its delaying effect was not observed, but also it reduced the X-ray-induced cell cycle delay. This might be due to the oxidation of cysteine by its radical scavenging action. Author-abstract.

12

AN 94049905. 94021.

AU Hayatsu-H. Negishi-T. Arimoto-S. Hayatsu-T.

IN Faculty of Pharmaceutical Sciences, Okayama University, Japan.

TI Porphyrins as potential inhibitors against exposure to carcinogens
and mutagens.

SO Mutat-Res. 1993 Nov. 290(1). P 79-85.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Studies have shown that there are many substances that can interfere with the actions of carcinogens and mutagens. Porphyrins, which often are constituents of diet, are a class of such inhibitors. Hemin can inhibit selectively the activity of mutagens having polycyclic structures by forming complexes with them. These effects were found with the use of bacterial assays and also by in vitro chemical experiments. A survey of porphyrins for similar effects has been done in our laboratory and it was found that chlorophyll and chlorophyllin act like hemin. These green pigments are *antimutagenic* in *Salmonella* and in *Drosophila*. Work from other laboratories also has supported the *antimutagenic* character of chlorophyllin. The possibility of modifying human exposure to carcinogens by use of these porphyrins is discussed. A porphyrin-like molecule, copper phthalocyanine trisulfonate, has been shown to have strong affinity to polycyclic compounds. Blue cotton, a cotton preparation bearing this blue pigment as a covalently bound ligand, has been demonstrated to be an adsorbent useful for isolating heterocyclic amines from food and other materials. Author-abstract. 32 Refs.

13

AN 94049136. 94021.

AU Hongslo-J-K. Brunborg-G. Steffensen-I-L. Holme-J-A.

IN Department of Environmental Medicine, National Institute of Public Health, Oslo, Norway.

TI Paracetamol inhibits UV-induced DNA repair in resting human mononuclear blood cells in vitro.

SO Mutagenesis. 1993 Sep. 8(5). P 423-9.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The effects of paracetamol on the repair of DNA damage in resting human peripheral mononuclear blood cells (MNC) in vitro were investigated by means of the alkaline elution technique. Low doses of UV light (254 nm, 3 J/m²) caused a transient increase in the amount of DNA single-strand breaks and alkali-labile sites (SSBs). Paracetamol (0.1-1.0 mM) present during post-irradiation incubation approximately doubled the maximum level of UV-induced (1-3 J/m²) SSBs and delayed the completion of repair. Although there were considerable variations between cells prepared from different donors, the level of UV-induced DNA SSBs was always higher with paracetamol. Hydroxyurea (0.3 mM), an inhibitor of ribonucleotide reductase, caused a similar increased accumulation and slow removal of SSBs, whereas cytosine-1-beta-D-arabinofuranoside (Ara C) (10 microM), an inhibitor of DNA polymerases, led to a steady accumulation of DNA SSBs. The increased levels of SSBs caused by paracetamol or hydroxyurea were both completely suppressed by concomitant addition of deoxyribonucleosides; this supports the notion that paracetamol as well as hydroxyurea inhibits ribonucleotide reductase. About the same rates of formation and removal of UV-induced SSBs were observed in T lymphocytes, B lymphocytes and monocytes. In both isolated T lymphocytes and B lymphocytes, paracetamol (0.3 mM) markedly

increased the level of DNA SSBs induced by UV, whereas monocytes seemed to be less sensitive to the effect of paracetamol. It is concluded that the inhibition of DNA repair may contribute to the clastogenic effects of paracetamol. Author-abstract.

14

AN 94041061. 94021.

AU van-Boekel-M-A. Weerens-C-N. Holstra-A. Scheidtweiler-C-E. Alink-G-M.

IN Department of Food Science, Wageningen Agricultural University, The Netherlands.

TI *Antimutagenic* effects of casein and its digestion products.

SO Food-Chem-Toxicol. 1993 Oct. 31(10). P 731-7.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* potential of casein was investigated using several mutagens, including some food-related mutagens, and the Salmonella/microsome and Escherichia coli DNA-repair tests. The effect depended on the type of mutagen and the incubation time of casein with the mutagens. Casein was very effective against benzo`a:pyrene, N-methylnitrosourea and nitrosated 4-chloroindole, and was less effective towards sodium azide and N-nitroquinoline-1-oxide (NQO). Preincubation increased the *antimutagenic* potential of casein towards NQO. Heating of casein (up to 20 min at 130 degrees C) did not alter its *antimutagenic* capacity. The effect of pepsin hydrolysis under simulated gastric conditions on the *antimutagenic* capacity of casein was tested with sodium azide and NQO in the Salmonella/microsome test. The peptides formed were separated by ultrafiltration or by isoelectric precipitation of casein, and were characterized by HPLC size-exclusion and Kjeldahl analysis. The *antimutagenic* potential of casein increased with pepsin hydrolysis; this increase was due to the peptides formed and might be explained by a better accessibility of casein peptides for interaction with mutagens. The *antimutagenic* potential of pepsin-hydrolysed casein towards sodium azide was observed over the whole dose-response curve. Author-abstract.

15

AN 94019485. 94011.

AU Lahiri-M. Maru-G-B. Bhide-S-V.

IN Swami Prakashananda Ayurveda Research Centre, Juhu, Bombay, India.

TI Effect of plant phenols, beta-carotene and alpha-tocopherol on benzo`a:pyrene-induced DNA damage in the mouse forestomach mucosa (target organ) and bone marrow polychromatic erythrocytes (non-target organ).

SO Mutat-Res. 1993 Oct. 303(2). P 97-100.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

16

AN 94019480. 94011.

AU Okai-Y. Higashi-Okai-K. Nakamura-S.

IN Division of Foods and Nutrition, Osaka Kun-ei Women's College, Japan.

TI Identification of heterogenous *antimutagenic* activities in the extract of edible brown seaweeds, *Laminaria japonica* (Makonbu) and *Undaria pinnatifida* (Wakame) by the umu gene expression system in *Salmonella typhimurium* (TA1535/pSK1002).

SO Mutat-Res. 1993 Oct. 303(2). P 63-70.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB A significant *antimutagenic* activity was found in the hot water-soluble extract from a common edible brown alga, *Laminaria japonica* (Makonbu in Japanese) which showed suppressive effects on umu gene expression of the SOS response against DNA damage in *Salmonella typhimurium* (TA1535/pSK1002). The extract showed a drastic *antimutagenic* activity against 2-acetylaminofluorene (2-AAF)- or 3-amino-1,4-dimethyl-5H-pyrido`4,3-b:indole (Trp-P-1)-induced mutagenesis which requires liver-metabolizing enzymes, whereas the same extract exhibited weak but significant inhibitory effects on N-methyl-N'-nitro-N-nitrosoguanidine (MNNG)- or furylfuramide (AF-2)-induced mutagenesis in the absence of liver-metabolizing enzymes. Among these *antimutagenic* activities, the minor activity was found in the polysaccharide fraction of the extract which showed roughly equal *antimutagenic* activities against all the mutagens tested. The major activity was detected in the nonpolysaccharide fraction which exhibited a relatively strong *antimutagenic* activity against 2-AAF- or Trp-P-1-induced mutagenesis but a weak activity against MNNG- or AF-2-induced mutagenesis. The nonpolysaccharide fraction was further separated into high- or low-molecular-weight fractions and the latter fraction showed a much stronger activity than the former fraction. In addition, similar *antimutagenic* activities were detected in polysaccharide and nonpolysaccharide fractions from the extract of the other edible brown alga, *Undaria pinnatifida* (Wakame in Japanese). These experimental results indicate that the hot water-soluble extract of *Laminaria japonica* or *Undaria pinnatifida* contains heterogenous *antimutagenic* activities against typical genotoxic substances. The significance of this finding is discussed from the viewpoint of the protection against genotoxic substances by traditional edible seaweeds in Japan. Author-abstract.

17

AN 94019479. 94011.

AU Espinosa-Aguirre-J-J. Reyes-R-E. Rubio-J. Ostrosky-Wegman-P. Martinez-G.

IN Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, Mexico, D.F.

TI Mutagenic activity of urban air samples and its modulation by chili extracts.

SO Mutat-Res. 1993 Oct. 303(2). P 55-61.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Different samples of ambient particulate organic matter were collected during the summer and winter of 1990 in Mexico City. After dichloromethane extraction, the samples were tested for mutagenicity with derivatives of *Salmonella typhimurium* possessing high activity of 'classical' nitroreductase (YG1021) or O-acetyltransferase (YG1024), and compared to the mutagenicity of the normal strain YG1020, and to that of a nitroreductase-deficient mutant TA98NR. The two enzyme-overproducing strains were more sensitive to the mutagenic effect of the extracts than the parent and deficient strains. The sensitivity order, i.e., YG1024 > YG1021 > YG1020 > TA98NR, emphasizes the usefulness of the new *Salmonella* strains in analyzing the mutagenicity of complex mixtures and suggests that some of the direct mutagenic compounds in the urban air samples are nitro-aromatics. Investigations were also conducted to analyze the effect of chili extract on the mutagenicity of an urban air sample. The extract itself showed moderate mutagenic activity and an additive effect was noted when both the chili and air extracts were present. On the other hand, the maximum volume of chili tested produced a decrease in the number of revertants without affecting the background lawn of bacterial growth. The same response was also observed when 1-nitropyrene, 1,6-dinitropyrene or 1,8-dinitropyrene was used as the genotoxic compound, although potentiation instead of addition occurred at low vegetable volumes. At the concentrations found in the chili extract, chlorophyllin and beta-carotene showed an *antimutagenic* effect against the nitro-aromatic compounds. Author-abstract.

18

AN 94009018. 94011.

AU Dashwood-R. Guo-D.

IN Department of Environmental Biochemistry, University of Hawaii, Honolulu 96822.

TI *Antimutagenic* potency of chlorophyllin in the *Salmonella* assay and its correlation with binding constants of mutagen-inhibitor complexes.

SO Environ-Mol-Mutagen. 1993. 22(3). P 164-71.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin (CHL) is a water-soluble salt of chlorophyll that exhibits *antimutagenic* activity in short-term genotoxicity assays and inhibits carcinogen-DNA binding in vivo. The *antimutagenic* potency of CHL was studied against several structurally related heterocyclic amines using the *Salmonella* assay. The mutagens included 2-amino-3-methylimidazo[4,5-f]-quinoline (IQ) and seven related IQ-type compounds, and 3-amino-1-methyl-5H-pyrido[4,3-b]indole (Trp-P-2) and three additional non-IQ-type compounds. No relationship was observed between mutagenic potency (revertants/ng mutagen) and *antimutagenic* potency when expressed in terms of the CHL

dose/plate-inhibiting mutagenicity by 50 percent (I50). However, a correlation was observed between mutagenic potency and the mole ratio of CHL to mutagen giving 50% inhibition (MR50), with most mutagens requiring several hundredfold to several thousandfold molar excess of CHL for inhibition. In spectrophotometric studies, CHL formed noncovalent molecular complexes with the heterocyclic amines, with binding constants in the range $3\text{--}13 \times 10^3 \text{ M}^{-1}$. Binding constants were inversely correlated with I50 and MR50 values, i.e., with increasing strength of complex formation less CHL/plate and a lower mole ratio of CHL to mutagen was required to inhibit mutagenicity. The results support an inhibitory mechanism in which chlorophylls operate as "interceptor molecules," interacting with carcinogens and mutagens directly and limiting their bioavailability.
Author-abstract.

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AN 94009017. 94011.

AU Muller-J. Janz-S.

IN Institute of Clinical Immunology, Faculty of Medicine, Leipzig University, Germany.

TI Modulation of the H2O2-induced SOS response in *Escherichia coli* PQ300 by amino acids, metal chelators, antioxidants, and scavengers of reactive oxygen species.

SO Environ-Mol-Mutagen. 1993. 22(3). P 157-63.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The SOS chromotest is a simple colorimetric genotoxicity assay that monitors DNA repair by measuring the induction of the gene *sfia* in *Escherichia coli* K-12. *E. coli* PQ300, a diagnostic SOS tester strain for the detection of oxidative genotoxins, carries a mutation in a key gene for antioxidative defense, *oxyR*. This mutation renders PQ300 more sensitive to oxidative genotoxins, particularly to H2O2. We found that induction of the SOS response by H2O2 in *E. coli* PQ300 is dependent on the composition of the incubation medium; a substantially reduced response was obtained in minimal phosphate buffered saline (PBS) as opposed to complex Luria broth (LB) medium. Supplementation of PBS with histidine or cysteine stimulated H2O2-induced SOS induction to levels exceeding those found in LB medium. Low concentrations of glutathione (20-70 microM) also enhanced the H2O2-induced SOS response in *E. coli* PQ300, whereas higher concentrations (> 150 microM) were protective. Preincubation of tester cells with the chelators o-phenanthroline, 2,2-dipyridyl, and ethylenediaminetetraacetic acid (EDTA) protected cells from the effects of H2O2, although EDTA was only partially effective. Pretreatment of PQ300 with the antioxidant ascorbic acid or the hydroxyl radical scavenger dimethyl sulfoxide also diminished the SOS response, whereas mannitol and glucose were ineffective. The results show that the net effect of H2O2-induced DNA damage is influenced by the balance of oxidative and antioxidative factors and, furthermore, can be modulated by constituents of the extracellular milieu.

Author-abstract.

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AN 93390539. 93000.

AU Nunes-E. Candreva-E-C. Keszenman-D. Salvo-V-A.

IN Department of Biophysics, Faculty of Medicine, Montevideo, Uruguay.

TI The mutagenic effect of elevated temperatures in yeast is blocked by a previous heat shock.

SO Mutat-Res. 1993 Oct. 289(2). P 165-70.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB We have analyzed the mutagenic effect of elevated temperatures (hyperthermia: HT) either upon direct exposure or after a previous heat shock (HS) in the haploid auxotrophic *Saccharomyces cerevisiae* strain SC7K lys2-3 in the logarithmic phase of growth. We demonstrated a significant *antimutagenic* effect of HS (38 degrees C for 1 h) followed by hyperthermia (48 degrees C, up to 60 min). Using cycloheximide (CHM) during the HS exposure we reversed the *antimutagenic* effect. We suggest that, upon HS, the enzymes involved in repair of premutational damage are more resistant to denaturation, i.e., by the induced HSP genes, and could work efficiently to prevent damage fixation in critical targets. CHM blocks the *antimutagenic* effect of the HS treatment by inhibiting the inducible synthesis of HSP. Author-abstract.

21

AN 93388311. 93000.

AU Mierauskiene-J. Lekevicius-R. Lazutka-J-R.

IN Ecological Genetics Laboratory, Vilnius University, Lithuania.

TI Anticlastogenic effects of Aevitum intake in a group of chemical industry workers.

SO Hereditas. 1993. 118(3). P 201-4.

JT HEREDITAS.

PT JOURNAL-ARTICLE (ART).

AB The incidence of chromosome aberrations (CAs) was investigated in cultured lymphocytes of 109 styrene-, formaldehyde-, and phenol-exposed workers in comparison with 64 controls. There was a marked increase in the incidence of the structural chromosome aberrations in the first mitotic division metaphases of occupationally exposed workers (3.59 +/- 0.26 CAs/100 cells vs 1.47 +/- 0.14 in controls (P < 0.01). 22 occupationally-exposed workers were selected for the trial including 1-month administration of a drug Aevitum (100,000 U of retinol palmitate plus 0.1 g of alpha-tocopherol acetate dissolved in 0.2 ml of oil) at a daily dose of 1-2 capsules for 5 days a week. The frequency of chromosome aberrations before, after the administration of a cumulative Aevitum dose of 2.0, 4.0 and 8.0 ml, and 6 weeks after the cessation of vitamin intake was 5.68 +/- 0.63, 4.33 +/- 0.45, 2.67 +/- 0.34, 2.00 +/- 0.25, and 2.64 +/- 0.21 per 100 cells, respectively. Thus, Aevitum was found to cause a significant decrease in

occupationally-induced chromosome damage in human lymphocytes.
Author-abstract.

22

AN 93382457. 93000.
AU Niikawa-M. Hayashi-H. Sato-T. Nagase-H. Kito-H.
IN Department of Public Health, Gifu Pharmaceutical University, Japan.
TI Isolation of substances from glossy privet (*Ligustrum lucidum* Ait.)
inhibiting the mutagenicity of benzo`a:pyrene in bacteria.
SO Mutat-Res. 1993 Sep. 319(1). P 1-9.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Methanol and hot-water extracts of glossy privet (*Ligustrum lucidum*
Ait.) inhibited the mutagenic activity of benzo`a:pyrene in
Salmonella typhimurium TA98 with S9 mix. The methanol extract was
fractionated with ether and n-hexane. As the active components,
oleanolic and ursolic acids were isolated, which were soluble in
ether and insoluble in n-hexane. The hot-water extract was
fractionated to water, 60% and 100% methanol fractions. Nuezhenide
was isolated from the 60% methanol fraction as the active component.
Author-abstract.

23

AN 93380632. 93000.
AU Bolonina-V-P. Mikheev-V-S.
TI `Effect of vitamin C on prostatilen mutagenicity in mice:.
SO Genetika. 1993 Jul. 29(7). P 1095-8.
JT GENETIKA.
PT JOURNAL-ARTICLE (ART).
AB Frequencies of sperm head anomalies (SHA) and chromosome aberrations
(CA) in bone marrow cells were studied after injection of drugs,
prostatilen and vitamin C into the male mice *Mus musculus*. It was
found that prostatilen (5, 10 and 50 mkg) increased the frequency of
both SHA and CA. Vitamin C (14 and 140 mkg) induced no CA but
increased SHA frequency at the dose of 140 mkg. The joint action of
the drugs led to decrease in SHA frequency for all dose combinations.
Antimutagenic action of vitamin C in the CA test was recorded for
only 14 mkg dose. Author-abstract.

24

AN 93378775. 93000.
AU Krinsky-N-I.
IN Department of Biochemistry, Tufts University School of Medicine,
Boston, MA 02111-1837.
TI Actions of carotenoids in biological systems.
SO Annu-Rev-Nutr. 1993. 13. P 561-87.
JT ANNUAL REVIEW OF NUTRITION.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 145 Refs.

AN 93372702. 93000.
 AU Nakamura-Y. Matsuo-T. Shimoi-K. Nakamura-Y. Tomita-I.
 IN School of Pharmaceutical Sciences, University of Shizuoka, Shizuoka, Japan.
 TI S-methyl methane thiosulfonate, a new *antimutagenic* compound isolated from *Brassica oleracea* L. var. *botrytis*.
 SO Biol-Pharm-Bull. 1993 Feb. 16(2). P 207-9.
 JT BIOLOGICAL AND PHARMACEUTICAL BULLETIN.
 PT JOURNAL-ARTICLE (ART).
 AB Though various *antimutagens* with desmutagenic activities have been found in our daily foods of plant origin, the numbers of *antimutagens* with *bio-antimutagenic* activities found so far are limited. In the present study, a compound with potential *bio-antimutagenic* activity to *Escherichia coli* B/r WP2 was newly isolated from cauliflower, *Brassica oleracea* L. var. *botrytis*, and its chemical structure was identified to be S-methyl methane thiosulfonate by NMR and MS analysis. Author-abstract.

AN 93364256. 93000.
 AU Wong-B-Y. Lau-B-H. Yamasaki-T. Teel-R-W.
 IN Department of Natural Science, Graduate School, Loma Linda University, CA 92350.
 TI Inhibition of dexamethasone-induced cytochrome P450-mediated mutagenicity and metabolism of aflatoxin B1 by Chinese medicinal herbs.
 SO Eur-J-Cancer-Prev. 1993 Jul. 2(4). P 351-6.
 JT EUROPEAN JOURNAL OF CANCER PREVENTION.
 PT JOURNAL-ARTICLE (ART).
 AB *Oldenlandia diffusa* (OD) and *Scutellaria barbata* (SB) have been used in traditional Chinese medicine for treating liver, lung and rectal tumours. We previously showed that they inhibited mutagenesis, DNA binding and metabolism of aflatoxin B1 (AFB1) and benzo(a)pyrene (BaP) bioactivated by Aroclor 1254-induced rat S9. The purpose of this study was to investigate the effects of OD and SB on the mutagenicity of AFB1 in *Salmonella typhimurium* TA100 using dexamethasone (DXM)-induced rat hepatic S9, on cytochrome P450-linked aminopyrine N-demethylase (APND) activity in DXM-induced hepatic microsomes and on the metabolism of AFB1 by DXM-induced S9 using high-performance liquid chromatography (HPLC). The experimental results showed that OD and SB consistently inhibited the mutagenicity of AFB1 bioactivated by either non-induced or DXM-induced S9. These effects correlated with the inhibition of cytochrome P450-linked APND activity in DXM-induced microsomes and with an inhibition of DXM-induced S9 mediated metabolism of ³H:AFB1 as determined by HPLC. Since DXM treatment has been associated with an induction of the CYP3 enzyme family, these results suggest that OD and SB may possess *antimutagenic* and antitumorigenic activity towards AFB1 through an inhibition of CYP3-mediated metabolism of AFB1. Author-abstract.

27

AN 93364243. 93000.

AU Bakhitova-L-M. Drobchenko-S-N.

TI `The effect of phenol derivatives on the *antimutagenic* activity of dextran:.

SO Izv-Akad-Nauk-Ser-Biol. 1993 Jul-Aug. (4). P 613-7.

JT IZVESTIIA AKADEMII NAUK. SERIIA BIOLOGICHESKAIA.

PT JOURNAL-ARTICLE (ART).

AB The effects of dextran + hydrazine or amino derivative of dibunol and of dextran + cystafos derivatives with different degree of modification of their molecules on the mutagenic activity of gamma irradiation were studied using the micronucleus test in polychromatophilic erythrocytes of the mouse bone marrow. The effects of these compounds on differentiation of the erythroid series has also been studied. The mutagenic activity of gamma irradiation was most markedly inhibited by the copolymer dextran and the amino derivative dibunol. The optimal structure of copolymers was 1 heterocyclic link per 3 non-oxidized links of dextran, while the increasing number of active links in the dextran molecule insignificantly enhanced its *antimutagenic* effect. The studied compounds effectively protected erythropoiesis. Author-abstract.

28

AN 93354306. 93000.

AU Chorvatovicova-D. Kovacikova-Z. Sandula-J. Navarova-J.

IN Institute of Experimental Pharmacology, Slovak Academy of Sciences, Bratislava.

TI Protective effect of sulfoethylglucan against hexavalent chromium.

SO Mutat-Res. 1993 Aug. 302(4). P 207-11.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effect of pretreatment with sulfoethylglucan (SEG) on the frequency of micronuclei and the liver alkaline phosphatase activity induced by potassium bichromate (Cr(VI)) in mice was evaluated. Simultaneous application of SEG and Cr(VI) decreased the frequency of micronuclei in bone marrow cells ($P < 0.01$) and the level of liver alkaline phosphatase activity in comparison to the Cr(VI) group. Pretreatment with SEG 24 h prior to the first Cr(VI) application resulted in a more pronounced decrease in the Cr(VI)-induced frequency of micronuclei. The mechanisms of the protective effects of sulfoethylglucan could be explained either by the formation of Cr ion complexes with sulfoethyl groups of glucan or by the scavenging ability of SEG to trap hydroxyl radicals. Author-abstract.

29

AN 93338367. 93000.

AU Ingel-F-I. Sakharova-T-A. Khripach-L-V. Revazova-IuA.

TI `The *antimutagenic* action of a preparation of a species-nonspecific interferon:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (3). P 20-3.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART).

AB The human gene-engineering gamma-interferon agent gammaferon (GF) is demonstrated to lower the level of chromosomal aberrations and release of cyclophosphamide-induced micronuclei in murine bone marrow cells. A model is suggested for regulating the ratio of single to multiple chromosomal aberrations induced by cyclophosphamide by altering the antioxidative status of the body. With this model, it was shown that the *antimutagenic* effects of GF were caused by two factors: the antioxidative effect of the corresponding placebo and the unknown (but none antioxidative) effect of gamma-interferon itself. Erythrocytic resistance to in vitro oxidative disturbance in the Fe²⁺/system was used as an integral measure of the body's antioxidative status. Author-abstract.

30

AN 93338366. 93000.

AU Semenov-V-V. Studentsova-I-A.

TI `Quantitative and qualitative criteria for assessing the efficacy of *antimutagens* in an experiment:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (3). P 16-20.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effect of para-aminobenzoic acid, tocopherol, adenosine and caffeine has been studied in experiments with microorganisms, *Crepis capillaris* seed cells, human lymphocytes, murine bone marrow cells in vivo. The activity, of *antimutagens,* their nature and action range, effective concentrations have been assessed. The type and severity of removable damages have been identified. Quantitative criteria for evaluating the effects of *antimutagens* have been defined. Author-abstract.

31

AN 93328106. 93000.

AU Mkrtchian-L-N. Nersesian-A-K.

TI `Effect of immunization of mice with human umbilical cord extract on micronucleus induction by cyclophosphane:.

SO Genetika. 1993 May. 29(5). P 866-8.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The influence of human umbilical cord extract (HUGE) on mutagenesis induces by cyclophosphamide in mice bone marrow cells was studied. It was shown that HUGE had no clastogenic property and decreased significantly the number of micronuclei in bone marrow cells of mice during 5 days after the last HUGE infection. We suppose that the *antimutagenic* effect is connected with interferon induction by HUGE. Author-abstract.

32

AN 93328094. 93000.

AU Vorobeva-L-I. Cherdyntseva-T-A. Averianov-A-A. Abilev-S-K.

TI *`Antimutagenic* action of superoxide dismutase on sodium azide- and nitrosoguanidine-induced mutagenesis in Salmonella typhimurium TA 1535:.

SO Genetika. 1993 May. 29(5). P 760-7.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB It was shown that superoxide dismutase (SOD) decreased the mutagenic action of sodium azide (NaN₃) and N-methyl-N'-nitro-N-nitrosoguanidine in Salmonella typhimurium TA1535. Catalase and quenchers of hydroxyl radicals showed, unlike SOD no effect on the mutagenicity of NaN₃. Cell extract from propionic acid bacteria also possessed the *antimutagenic* activity, only partially depending on the SOD activity. Author-abstract.

33

AN 93324502. 93000.

AU Goud-V-K. Polasa-K. Krishnaswamy-K.

IN Food and Drug Toxicology Research Centre, National Institute of Nutrition, Jamai-Osmania, Hyderabad, India.

TI Effect of turmeric on xenobiotic metabolising enzymes.

SO Plant-Foods-Hum-Nutr. 1993 Jul. 44(1). P 87-92.

JT PLANT FOODS FOR HUMAN NUTRITION.

PT JOURNAL-ARTICLE (ART).

AB Diet contains several substances capable of inhibiting chemical carcinogenesis. It is known that such inhibitors may either act directly by scavenging the reactive substances or indirectly by promoting mechanisms which enhance detoxification. Turmeric which contains curcumin both in vitro and in vivo is an active *antimutagen.* Studies were therefore conducted to evaluate the effects of turmeric on xenobiotic metabolising enzymes in hepatic tissue of rats fed turmeric ranging from 0.5-10% in the diet. Enzymes such as aryl hydrocarbon hydroxylase, UDP glucuronyl transferase and glutathione-S-transferase were assayed after four weeks of turmeric fed diets. No significant differences were seen in the activating enzyme AHH. However, UDPGT was significantly elevated in rats fed 10% turmeric while GSHT registered a significant increase in 5 and 10% turmeric fed diet as compared to controls and 0.5-1.0% turmeric fed animals. The results suggest that turmeric may increase detoxification systems in addition to its anti-oxidant properties. Curcumin perhaps is the active principle in turmeric. Turmeric used widely as a spice would probably mitigate the effects of several dietary carcinogens. Author-abstract.

34

AN 93319626. 93000.

AU Ohta-T.

IN Institute of Environmental Toxicology, Kodaira, Tokyo.

TI Modification of genotoxicity by naturally occurring flavorings and

their derivatives.

SO Crit-Rev-Toxicol. 1993. 23(2). P 127-46.

JT CRITICAL REVIEWS IN TOXICOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The number of studies in the research field of antimutagenesis is increasing. The aims of many of these studies are preventing genetic hazards from environmental mutagens and elucidating the process of mutagenesis. Some naturally occurring flavorings such as vanillin, cinnamaldehyde, and coumarin have been reported to inhibit mutagenesis induced by mutagens in bacterial and mammalian cells. These flavorings are considered to act as *antimutagens* by modifying DNA replication and/or DNA repair systems after cellular DNA was damaged by mutagens. A factor that suppresses mutagenicity in a given situation, however, sometimes exerts enhancing effects when the endpoints investigated or the test conditions used are varied. This makes the evaluation of *antimutagenic* factors complicated. Different modifying effects of the above-mentioned flavorings observed in various test systems for genotoxicity are discussed, based on their proposed mechanisms. Author-abstract. 78 Refs.

35

AN 93316989. 93000.

AU Fujie-K. Aoki-T. Ito-Y. Maeda-S.

IN Department of Natural Science, Osaka Women's University, Japan.

TI Sister-chromatid exchanges induced by trihalomethanes in rat erythroblastic cells and their suppression by crude catechin extracted from green tea.

SO Mutat-Res. 1993 Aug. 300(3-4). P 241-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB An in vitro sister-chromatid exchange (SCE) assay using rat erythroblastic leukemia cells was conducted with four major trihalomethanes (THMs): chloroform, CHCl₃; dichlorobromomethane, CHCl₂Br, dibromochloromethane, CHClBr₂; bromoform, CHBr₃. In the absence of S9 mix, CHBr₃, CHClBr₂ and CHCl₂Br significantly induced SCEs in a clear dose-dependent manner, while CHCl₃ did not significantly induce SCEs. On the other hand, the incidence of CHCl₃-induced SCEs significantly increased, although the incidence of CHBr₃-induced SCEs decreased by the addition of S9 mix. However, there was no difference between the incidence of SCEs induced by CHBr₃, CHClBr₂ or CHCl₂Br in the absence of S9 mix and that in the presence of S9 mix. The addition of crude catechin to the SCE assay system suppressed the ability of CHCl₃ or CHBr₃ to induce SCEs but had no suppressive effect on the other THM-induced SCEs. The suppression of SCEs induced by CHCl₃ or CHBr₃ depended on the crude catechin dose. Author-abstract.

36

AN 93316987. 93000.

AU Kuo-M-L. Lin-J-K.

IN Institute of Toxicology, College of Medicine, National Taiwan University, Taipei.

TI The genotoxicity of the waste water discharged from paraquat manufacturing and its pyridyl components.

SO Mutat-Res. 1993 Aug. 300(3-4). P 223-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The genotoxic potencies of waste water condensate from paraquat manufacturing and its pyridyl components on V79 cells were evaluated using the alkaline elution assay and 6-thioguanine resistance mutation assay. Although 2,2'-dipyridyl and 2,2',2''-tripyridyl both were highly cytotoxic to the cells, only 2,2'-dipyridyl induced moderate DNA-cleaving activity and a low frequency of thioguanine resistance mutation in V79 cells. However, equally toxic doses of waste water condensate exhibited highly DNA-damaging and mutagenic activities in the same cell system. After chelation of ferrous ions, the number of DNA lesions and frequency of 6-TGr mutations induced by waste water condensate were slightly suppressed, whereas by contrast those induced by 2,2'-dipyridyl were significantly potentiated. These results indicate that the coordination compound formation of pyridyl derivatives of waste water with metal ions, especially ferrous ions, in biological systems may be closely related to these genotoxic mechanisms. Finally, it was found that DMSO (a scavenger of hydroxyl radical) and catalase could remarkably protect cells from genotoxic damage induced by waste water condensate, 2,2'-dipyridyl and their ferrous complexes, but this protection was not observed in cells which were treated with SOD (superoxide dismutase). This suggests that the generation of some unknown active oxygen species may be involved in the genotoxic mechanisms of waste water condensate and its constituent 2,2'-dipyridyl. Author-abstract.

37

AN 93316984. 93000.

AU Zhang-X-B. Ohta-Y.

IN Laboratory for Microbial Biochemistry, Faculty of Applied Biological Science, Hiroshima University, Higashi, Japan.

TI Anticlastogenic and *bio-antimutagenic* activity of cultured broth of *Saccharomyces cerevisiae* 28 on mutagens.

SO Mutat-Res. 1993 Aug. 300(3-4). P 201-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The possible anticlastogenic activity and *bio-antimutagenic* mechanism of the cultured broth of *Saccharomyces cerevisiae* 28 were examined using in vivo and in vitro test systems. In the Ames test with *Salmonella typhimurium* TA100 (SD-) and in the umu-test with *S. typhimurium* TA1535/psk1002, the cultured broth of *S. cerevisiae* 28 showed *bio-antimutagenic* activity against mutagenicity induced by 3-amino-1,4-dimethyl-5H-pyrido`4,3-b:indole (Trp-P-1), 3-amino-1-methyl-5H-pyrido`4,3-b:indole (Trp-P-2) and 2-amino-3-methylimidazo`4,5-f:quinoline (IQ). The cultured broth

also showed *bio-antimutagenic* activity towards reverse mutations induced by N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) in Escherichia coli B/r WP2 trp-, but not by UV radiation. It is clear that the cultured broth could inhibit base substitution mutations induced by mutagens. Using mitomycin C (MMC) as a mutagen, the micronucleus test (with bone marrow cells of mice) showed anticlastogenic action when the cultured broth was given orally to mice. Micronucleated polychromatic erythrocytes induced by the mutagen were reduced by about 47% by the cultured broth. Author-abstract.

38

AN 93316983. 93000.

AU Mertens-R. Severin-K. Habedank-M.

IN Department of Pediatrics, Medical Faculty, RWTH Aachen, Germany.

TI Effect of human and recombinant IFN-alpha and IFN-beta on the sister-chromatid exchange (SCE) frequency in amniotic fluid cells in vitro.

SO Mutat-Res. 1993 Aug. 300(3-4). P 195-200.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Sister-chromatid exchange (SCE) and rates of proliferation in human amniotic fluid cells from healthy donors exposed to human IFN-alpha and IFN-beta and recombinant IFN-alpha and -beta were investigated. Amniotic fluid cells were obtained from pregnant women undergoing genetic amniocentesis. For 46 h, cells were treated with IFNs at concentrations of 10(3)-10(5) U/l. A dose-depending decrease of SCE rate with IFN-alpha and IFN-beta was observed. Our studies in amniotic fluid cells show that the mean SCE frequencies are reduced after incubation with IFN-alpha as well as with IFN-beta. In contrast to IFN-gamma, the type I IFNs IFN-alpha and IFN-beta cause a genetic effect on DNA repair or a protection from DNA damage. Previously we had shown that a significant dose-depending increase of SCE rates was found in amniotic fluid cultures after addition of IFN-gamma. Therefore, IFN-alpha and IFN-beta (both human IFNs) and also recombinant IFN-alpha and IFN-beta, also in high doses, are neither genotoxic/clastogenic nor embryotoxic. Amniotic cells are vulnerable human cells, which may be well suited for examining the effects of agents like interferon. Author-abstract.

39

AN 93316979. 93000.

AU Espinosa-Aguirre-J-J. Vilchis-C. Ostrosky-Wegman-P. Benitez-L. Lares-I. Rubio-J.

IN Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, D.F.

TI Antimutagenicity of cyclohexanol towards 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone and N-nitrosodiethylamine in Salmonella typhimurium strain TA100.

SO Mutat-Res. 1993 Aug. 300(3-4). P 151-4.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The ability of cyclohexanol to inhibit the mutagenicity of tobacco-specific nitrosamine 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK) and of N-nitrosodiethylamine (NDEA) was tested on *Salmonella typhimurium* strain TA100. Cyclohexanol produced a dose-dependent decrease in the number of revertants induced by a single dose of NNK (24 mumoles) or NDEA (59 mumoles). Nevertheless, this inhibitory effect was not observed with other premutagenic agents such as benzo`a:pyrene and 2-aminoanthracene nor with direct mutagens such as ethyl methanesulfonate and methyl methanesulfonate. These results suggest that cyclohexanol interferes with the 'bioactivation' of the tested nitrosamines in a similar way that other alcohols such as ethanol or isopropanol interfere with N-nitro-sodimethylamine and NDEA metabolism. Author-abstract.

40

AN 93316978. 93000.

AU Subhadra-A-V. Panda-K-K. Panda-B-B.

IN Department of Botany, Berhampur University, India.

TI Residual mercury in seed of barley (*Hordeum vulgare* L.) confers genotoxic adaptation to ethyl methanesulfonate, maleic hydrazide, methyl mercuric chloride and mercury-contaminated soil.

SO Mutat-Res. 1993 Aug. 300(3-4). P 141-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Seeds of barley, *Hordeum vulgare* L., with or without residual mercury were exposed to concentrations of ethyl methanesulfonate (EMS), maleic hydrazide (MH), methyl mercuric chloride (MMCl) and mercury-contaminated soil. Subsequently the endpoints measured were germination, seedling height, mitotic index, mitotic chromosome or spindle aberrations in embryonic shoot cells and meiotic chromosome aberration in pollen mother cells. The results unequivocally demonstrated that the seed-residual mercury conferred protection against the genotoxicity of EMS, MH, MMCl as well as mercury-contaminated soil in barley. The genotoxic adaptation to MH and MMCl was significantly prevented by pre-exposing the Hg-seeds to buthionine sulfoximine, an inhibitor of phytochelatin synthesis. Furthermore, compared to normal seedlings, the seedlings grown from Hg-seeds exhibited a higher amount of non-protein SH. The findings indicated a possible involvement of phytochelatins in the mercury-induced adaptive response. Author-abstract.

41

AN 93309506. 93000.

AU Sasaki-Y-F. Shirasu-Y.

IN Biological Laboratory, School of Science, Kwansei Gakuin University, Hyogo, Japan.

TI Suppressing effects of S phase post-treatment with carbolines on sister-chromatid exchanges induced by mitomycin C in Chinese hamster

cells.

SO Mutat-Res. 1993 Jul. 302(3). P 165-71.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effects of post-treatment with four types of carbolines-alpha-, beta-, gamma-, and delta-carbolines-and aminoimidazoazaarenes during S phase on the frequency of SCEs induced by MMC were studied in synchronized Chinese hamster CHO cells. Post-treatment with alpha-carbolines (A alpha C, MeA alpha C), beta-carbolines (harman, norharman, harmine, and harmaline), gamma-carbolines (Trp-P-1 and Trp-P-2) and delta-carbolines (Glu-P-1, and Glu-P-2) during S phase at non-clastogenic concentrations caused a statistically significant decrease in the frequency of SCEs induced by MMC. Aminoimidazoazaarenes (IQ, MeIQ, and diMeIQx) showed no effects on SCEs, suggesting that the SCE-suppressing activity resides in the carboline structure. The data suggest that the suppressing effect may be due to inhibition of DNA replication. Author-abstract.

42

AN 93308008. 93000.

AU Hirose-M. Akagi-K. Hasegawa-R. Satoh-T. Nihro-Y. Miki-T. Sugimura-T. Ito-N.

IN First Department of Pathology, Nagoya City University, Medical School.

TI Strong inhibition of 2-amino-6-methyldipyrido`1,2-a:3',2'-d: imidazole-induced mutagenesis and hepatocarcinogenesis by 1-O-hexyl-2,3,5-trimethylhydroquinone.

SO Jpn-J-Cancer-Res. 1993 May. 84(5). P 481-4.

JT JAPANESE JOURNAL OF CANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effects of 3-O-dodecylcarbomethylascorbic acid (3-O-DAsA), 3-O-ethylascorbic acid (3-O-EAsA) and 1-O-hexyl-2,3,5-trimethylhydroquinone (HTHQ) on 2-amino-6-methyldipyrido`1,2-a:3',2'-d:-imidazole (Glu-P-1)-induced mutagenesis and hepatocarcinogenesis were examined. In a Salmonella assay, addition of 2.5 to 20.0 mg of HTHQ to Salmonella TA 98 in the presence of S-9 mixture dose-dependently inhibited Glu-P-1-induced mutagenesis. The highest dose showed a 99% reduction in revertants. 3-O-DAsA and 3-O-EAsA were without effect. In an animal study using the medium-term bioassay system for the detection of hepatocarcinogens or hepatopromoters in F344 male rats, treatment with Glu-P-1 alone was associated with a significant increase in the number and area of GST-P-positive foci (47.5 +/- 8.9 and 11.1 +/- 4.7, respectively). Combined treatment with 1.0% HTHQ significantly reduced the number and area of GST-P-positive foci (to 8.1 +/- 2.1 and 0.6 +/- 0.2) while 3-O-DAsA exerted marginal inhibition and 3-O-EAsA had no effect. On the other hand, all three of these compounds slightly enhanced the numbers and areas of foci when given alone. The results indicate that HTHQ is a potent chemopreventer of Glu-P-1-induced hepatocarcinogenesis. Author-abstract.

AN 93302800. 93000.

AU Lee-H. Aoki-K. Sakagami-H. Yoshida-T. Kuroiwa-Y.

IN Department of Biochemical Toxicology, School of Medicine, Showa University, Tokyo, Japan.

TI Interaction of pine cone extract fraction VI with mutagens.

SO Mutat-Res. 1993 Jul. 297(1). P 53-60.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Pine cone extract fraction VI (PC-VI) inhibited the mutagenicity of the promutagens tested: the polycyclic aromatic hydrocarbon benzo`a:pyrene (B`a:P) dose-dependently, and the aromatic amines 2-aminoanthracene (AA) and 2-acetylaminofluorene (AAF) at high concentrations. PC-VI had no effect on the mutagenicity of the direct-acting mutagens 2-(2-furyl)-3-(5-nitrofuryl)acrylamide (AF-2) and N-methyl-N'-nitro-N-nitrosoguanidine (MNNG), but inhibited the mutagenicity of the direct-acting mutagen N-hydroxy 2-acetylaminofluorene (N-OH AAF, proximate mutagen of AAF). The addition of PC-VI to rat hepatic microsomes resulted in a decrease of their enzyme activities, especially NADPH-cytochrome c reductase. By gas-chromatographic analysis of B`a:P or AA contents after incubation of B`a:P or AA and PC-VI and S9 mix, the inhibition of hepatic metabolizing enzymes and the interaction between AA and PC-VI were confirmed. On the other hand, PC-VI had no effect on the DNA repair systems for B`a:P- or AA-induced mutagenesis. We conclude that PC-VI shows indirect antimutagenicity by interfering with cytochrome P-450-dependent bioactivation and by direct interaction with AA and the proximate mutagenic product of AAF. Author-abstract.

AN 93297859. 93000.

AU Trizna-Z. Benner-S-E. Shirley-L. Furlong-C. Hong-W-K.

IN Department of Head and Neck Surgery, University of Texas M.D. Anderson Cancer Center, Houston 77030.

TI N-(4-hydroxyphenyl) retinamide is anticlastogenic in human lymphoblastoid cell lines.

SO Anticancer-Res. 1993 Mar-Apr. 13(2). P 355-6.

JT ANTICANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The in vitro anticlastogenic effects of a new synthetic retinoid derivative, N-(4-hydroxyphenyl)-retinamide (4-HPR), were studied in two human lymphoblastid cell lines (3640P and 4087P). Cell cultures were preincubated with 4-HPR in a range of concentrations from 10^{-9} to 10^{-6} M for 24 h. The number of chromatid breaks per cell (b/c) induced by a 2-hour treatment with 0.004 U/ml bleomycin was determined. The mean b/c values in cell cultures treated with bleomycin alone were 0.50 (3640P) and 0.73 (4087P). The presence of 10^{-6} M 4-HPR significantly decreased this value in both cell lines to 0.27 in 3640P ($p < 0.01$) and 0.41 in 4087P ($p < 0.05$). Lower

concentrations (10^{-7} and 10^{-8} M) of 4-HPR significantly decreased b/c only in cell line 3649 ($p < 0.05$). Incubation with the lowest concentration (10^{-9} M) of 4-HPR did not decrease b/c values. These preliminary data demonstrate that 4-HPR has anticlastogenic effects in vitro and are similar to our results from previous studies on the in vitro antigenotoxic effects of 13-cis-retinoic acid (Trizna Z et al, Eur J Cancer, 1993, 29A: 137-140). Author-abstract.

45

AN 93293092. 93000.
AU Geetanjali-D. Rita-P. Reddy-P-P.
IN Institute of Genetics, Begumpet, Hyderabad, India.
TI Effect of ascorbic acid in the detoxification of the insecticide dimethoate in the bone marrow erythrocytes of mice.
SO Food-Chem-Toxicol. 1993 Jun. 31(6). P 435-7.
JT FOOD AND CHEMICAL TOXICOLOGY.
PT JOURNAL-ARTICLE (ART).
AB The *antimutagenic* potential of ascorbic acid in the detoxification of the organophosphorus insecticide dimethoate was evaluated in female Swiss albino mice using the in vivo bone marrow micronucleus test. Groups of three mice were treated with distilled water (control), 1% dimethyl sulphoxide (solvent control), or 86, 129.5 or 259 mg ascorbic acid/kg body weight, with or without the concurrent administration of 150 mg dimethoate/kg. There was a statistically significant increase in the frequency of micronuclei in dimethoate-treated mice. However, in mice that were given dimethoate and ascorbic acid simultaneously, the numbers of micronuclei did not differ significantly from control values, thus indicating the protective role of ascorbic acid. Author-abstract.

46

AN 93290261. 93000.
AU Krinsky-N-I.
IN Department of Biochemistry, Tufts University School of Medicine, Boston, Massachusetts 02111-1837.
TI Micronutrients and their influence on mutagenicity and malignant transformation.
SO Ann-N-Y-Acad-Sci. 1993 May 28. 686. P 229-42.
JT ANNALS OF THE NEW YORK ACADEMY OF SCIENCES.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB Many studies have now indicated that micronutrients, such as the carotenoids, tocopherols, and ascorbic acid, can prevent mutagenesis, genotoxic effects, or malignant transformation in bacteria and mammalian tissue, either in cell culture or in organ culture. In addition, multiple papers report that some of these micronutrients act as anticarcinogenic agents in animals treated with either ultraviolet light, ultraviolet light with chemicals, or chemical carcinogens alone. With respect to the carotenoids, early experiments used pharmacological doses of carotenoids, but more recent reports indicate that relatively small doses can be effective.

Inasmuch as these effects are seen with both provitamin A and nonprovitamin A carotenoids, it would appear that these effects are intrinsic to the carotenoid molecule, and not due to the metabolic conversion to retinoids. Partially on the basis of these observations, it has been suggested that the micronutrients may function as chemopreventive agents for reducing the risk of cancer in humans. Numerous human intervention studies are underway to test this hypothesis. Author-abstract. 65 Refs.

47

AN 93288049. 93000.

AU Arimoto-S. Fukuoka-S. Itome-C. Nakano-H. Rai-H. Hayatsu-H.

IN Faculty of Pharmaceutical Sciences, Okayama University, Japan.

TI Binding of polycyclic planar mutagens to chlorophyllin resulting in inhibition of the mutagenic activity.

SO Mutat-Res. 1993 Jun. 287(2). P 293-305.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin is known to inhibit the mutagenicity of a variety of compounds. Using highly purified samples of chlorophyllin and its family compounds, we studied the mechanism of the inhibition. Since mutagens with polycyclic planar structures are particularly strongly inhibited, it seemed likely that the inhibition arises by trapping of the mutagens by chlorophyllin through complex formation at the planar surfaces of these molecules. To explore this possibility, we prepared a Sepharose bearing covalently linked chlorophyllin as ligand, and the adsorption of mutagens to this Sepharose was measured. Three different chlorophyllin derivatives were used, i.e., copper-chlorin, iron-chlorin and chlorin, to investigate the role of metal in the center of the chlorophyllin chromophore. Adsorption of 37 different compounds, mostly mutagens, in 0.02 M Tris-HCl buffer at pH 8.0 to these chlorophyllin-Sepharose preparations was studied in a quantitative manner. The results showed that most of the compounds having three or more fused rings were strongly adsorbed with apparent dissociation constants of 10^{-5} - 10^{-6} M, whereas those having two fused rings or one ring were only poorly adsorbed. Since the three Sepharose adsorbents gave similar adsorption profiles, it appeared that the central metal in the chlorophyllin molecule does not play a crucial role in the adsorption. We also measured the inhibitory effect of copper-chlorin against the mutagenicity of some of these compounds using the Salmonella assay. The results showed that those mutagens that were strongly adsorbable to copper-chlorin-Sepharose were subject to efficient inhibition by copper-chlorin, whereas many of those only poorly adsorbed were inhibited only weakly. We concluded that trapping by complex formation plays a role in the *antimutagenic* actions of chlorophyllin against many mutagens, particularly notable being the actions against ICR-170, quinacrine, aflatoxin B1, Trp-P-1 and Trp-P-2. An unusual behavior of Trp-P-2 in the adsorption process, i.e., a very tight complex formation at an extremely low Trp-P-2 concentration, was found; the implication of

this phenomenon in relation to the real environmental setting is discussed. Author-abstract.

48

AN 93288046. 93000.

AU Edenharder-R. von-Petersdorff-I. Rauscher-R.

IN Institute of Hygiene, University of Mainz, Germany.

TI *Antimutagenic* effects of flavonoids, chalcones and structurally related compounds on the activity of 2-amino-3-methylimidazo[4,5-f]quinoline (IQ) and other heterocyclic amine mutagens from cooked food.

SO Mutat-Res. 1993 Jun. 287(2). P 261-74.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Sixty-four flavonoids were tested for their *antimutagenic* potencies with respect to IQ in *Salmonella typhimurium* TA98 and in part also towards MeIQ, MeIQx, Trp-P-2, and Glu-P-1 and in *S. typhimurium* TA100. *Antimutagenic* potencies were quantified by the inhibitory dose for 50% reduction of mutagenic activity (ID50). A carbonyl function at C-4 of the flavane nucleus seems to be essential for antimutagenicity: two flavanols and four anthocyanidines were inactive. Again, five isoflavons, except biochanin A, were inactive. Within the other groups of 21 flavones, 16 flavonols and 16 flavanones the parent compounds flavone, flavonol, and flavanone possessed the highest *antimutagenic* potencies (ID50: 4.1, 2.5, 5.5 nmoles). Increasing polarity by introduction of hydroxyl functions reduced *antimutagenic* potency. Reducing polarity of hydroxy flavonoids by methyl etherification, however, increased *antimutagenic* potency again. 6-Hydroxy- and 2'-hydroxy substituted flavonoids were considerably less potent *antimutagens.* Of 11 flavonoid glycosides tested all compounds except apigenin- and luteolin-7-glucoside (ID50:74, 115 nmoles) were inactive or only weakly *antimutagenic.* Rings C and A of the nucleus were not essential for antimutagenicity: chalcone and three derivatives were nearly as active as comparable flavones while antimutagenicity of benzylidenacetone was considerably reduced (ID50: 95 nmoles). Cinnamylaldehyde and cinnamoates, however, were inactive. A planar structure in the vicinity of the carbonyl group may also be important for antimutagenicity. Flavanones were less potent *antimutagens* than the corresponding flavones, but dihydrochalcones and 14 structurally related saturated aromatic carbonyl compounds were inactive. Fisetin and 6-hydroxyflavone were competitive inhibitors, but luteolin was a mixed type inhibitor. The inhibition mechanisms of flavone, kaempferol, morin, flavanone, and 2'-hydroxyflavanone were concentration dependent, being competitive at low concentrations and mixed or non-competitive (2'-hydroxyflavanone) at concentrations about the ID50 value. No fundamental differences between the two tester strains and no clear influence of mutagen structure on *antimutagenic* potency could be detected. Author-abstract.

AN 93284691. 93000.

AU Jacoby-R-F. Bolt-M-J. Dolan-M-E. Otto-G. Dudeja-P. Sitrin-M-D. Brasitus-T-A.

IN Department of Medicine, University of Chicago, Pritzker School of Medicine, IL 60637.

TI Supplemental dietary calcium fails to alter the acute effects of 1,2-dimethylhydrazine on O6-methylguanine, O6-alkylguanine-DNA alkyltransferase and cellular proliferation in the rat colon.

SO Carcinogenesis. 1993 Jun. 14(6). P 1175-9.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Prior studies from our laboratory have demonstrated that K-ras G to A mutations were detectable in a high percentage of carcinomas which developed in the colons of animals treated with the known colonic procarcinogen, 1,2-dimethyl-hydrazine (DMH). Moreover, in this model, the incidence of these mutations was decreased by a supplemental dietary calcium regimen which concomitantly decreased the frequency of rats with multiple tumors as well as tumor size. In an attempt to clarify the possible mechanism(s) involved in this *antimutagenic* effect of supplemental calcium, two groups of Sprague-Dawley rats were fed semisynthetic diets containing either 0.87 or 1.80% calcium by weight for 3 weeks, s.c. injected with 100 mg/kg of DMH and killed prior to and at various time periods (16-144 h) after injection. The colons of animals were analyzed and compared with respect to O6-methylguanine content in DNA, O6-alkylguanine-DNA alkyltransferase levels as well as cellular proliferation, as assessed by immunohistochemical staining of colonic crypts by bromodeoxyuridine. In certain experiments, these parameters were also analyzed in the proximal and distal colon before and at various times after administration of DMH. The results of these experiments demonstrated that supplemental dietary calcium was not found to influence significantly O6-methylguanine levels, alkyltransferase levels or cellular proliferation in the entire colon or in either colonic segment before or after the acute administration of DMH. DMH did, however, differentially alter all three of these biochemical parameters in the colonic segments (distal > proximal), possibly due to a greater degree of metabolic activation in the distal colon. Author-abstract.

AN 93278145. 93000.

AU De-Flora-S. Bronzetti-G. Weisburger-J-H.

IN Istituto di Igiene e Medicina Preventiva, Universita di Genova, Italy.

TI Third International Conference on Mechanisms of Antimutagenesis and Anticarcinogenesis.

SO Cancer-Epidemiol-Biomarkers-Prev. 1991 Nov-Dec. 1(1). P 95-9.

JT CANCER EPIDEMIOLOGY, BIOMARKERS AND PREVENTION.

PT CONGRESS (CON).

AB This conference, attended by scientists from 27 countries, focused on the most recent advances in the field of antimutagenesis and anticarcinogenesis. Particular emphasis was given to the mechanistic approach, which is believed to be an essential prerequisite for a safer and more effective implementation of chemoprevention of cancer and of mutation-related diseases. The arrangement of the six regular sessions basically followed and updated the detailed classification of mechanisms of inhibitors of mutagenesis and carcinogenesis proposed by S. De Flora and C. Ramel (Mutat. Res., 202: 285-306, 1988), covering both extracellular and cellular mechanisms involved in the prevention of mutations and cancer initiation, as well as in the modulation of later stages of the carcinogenesis process. In addition, a workshop was devoted to methodological aspects concerning the modulation of the genotoxic and carcinogenic response. The present report covers the main themes of overview lectures or research communications presented by more than 60 speakers. Most presentations were multi-authored, as the result of collaborative studies, in several cases at the international level, but only the names of speakers will be given. Author-abstract.

51

AN 93275979. 93000.

AU Makedonov-G-P. Alekhina-N-I. Tskhovrebova-L-V. Zasukhina-G-D.

TI `A comparison of the efficacy of the anticlastogenic action of interferon and of the radiation-adaptive response:.

SO Radiobiologia. 1993 Mar-Apr. 33(2). P 259-64.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Human lymphocytes, in the in vitro culture, exposed to X-rays (0.05 Gy) or treated with lymphoblastoid interferon (50 IE/ml) in phase G1 were less susceptible to induction of chromosome aberrations, of a chromosome type, by subsequent gamma-radiation (2 Gy) than those exposed to 2 Gy radiation only. The anticlastogenic effect of the pretreatment with interferon was considerably higher than that of preirradiation with X-rays which might be the result of the pleiotropic action of interferon in a cell. Author-abstract.

52

AN 93268334. 93000.

AU Obaseiki-Ebor-E-E. Odukoya-K. Telikepalli-H. Mitscher-L-A. Shankel-D-M.

IN Department of Microbiology, University of Kansas, Lawrence 66045.

TI *Antimutagenic* activity of extracts of leaves of four common edible vegetable plants in Nigeria (west Africa).

SO Mutat-Res. 1993 Jun. 302(2). P 109-17.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Organic solvent extracts of leaves of 4 common edible vegetable plants--Bryophyllum pinnatum, Dialium guincense, Ocimum gratissimum and Vernonia amygdalina--had inhibitory activity for His- to His+

reverse-mutations induced by ethyl methanesulfonate acting on *Salmonella typhimurium* TA100. The concentrated ethyl acetate, methanol and petroleum ether extracts were heat-stable when dissolved in dimethyl sulfoxide. The *Bryophyllum* ethyl acetate extract was fractionated into alkaloidal/water-soluble, acids, polar lipid and non-polar lipid fractions. The polar and non-polar lipid fractions inhibited reversion mutations induced by ethyl methanesulfonate acting on TA100 or TA102, and were also active against reversions induced by 4-nitro-O-phenylenediamine and 2-aminofluorene in TA98. The alkaloidal/water-soluble and the acid fractions had no appreciable *antimutagenic* activities. Author-abstract.

53

AN 93262957. 93000.

AU Oldini-C. Malusardi-G. Grossi-L. Chiarelli-G.

IN Divisione ORL Ospedale Maggiore di Lodi, MI.

TI `Role of beta-carotene in the prevention of genotoxic damage in patients undergoing radiotherapy. Monitoring by the micronucleus test in exfoliative cells of the oral cavity:.

SO Acta-Otorhinolaryngol-Ital. 1992 Sep-Oct. 12(5). P 435-41.

JT ACTA OTORHINOLARYNGOLOGICA ITALICA.

PT JOURNAL-ARTICLE (ART).

AB Radiotherapeutic treatment of patients with carcinoma usually causes genotoxis damage. This has been studied recently using the test of micronuclei in esfoliated cells. This test presents methodologic advantages in compared with the classic citogenetic analysis and as it is carried out on esfoliated cells from the oral cavity it faithfully reflects the genotoxic damage undergone by the cells of the basal layer of the epitelium. The preliminary result obtained so far have confirmed the anticlastogenic activity of beta-carotene in fact, the frequence of micronuclei in esfoliated cells from the oral cavity in patients undergoing radiotherapy or undergoing treatment with beta-carotene is inferior to that of patients undergoing treatment with beta-carotene is inferior to that of patients undergoing radiotherapy without the subministration of carotenoids. Treatment with carotenoids does not influence the therapeutic efficiency of radiotherapy treatment. Therefore, the results seem to confirm that indirect ossidaction processes are involved in the mechanism of the clastogenic action of radiotherapia. The carotenoids seem to be able to contrast validly this undesirable effect without interfering with the desirable therapeutic effect. Author-abstract.

54

AN 93259172. 93000.

AU Das-T. Roychoudhury-A. Sharma-A. Talukder-G.

IN Department of Botany, University of Calcutta, India.

TI Modification of clastogenicity of three known clastogens by garlic extract in mice in vivo.

SO Environ-Mol-Mutagen. 1993. 21(4). P 383-8.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The anticlastogenic activity of crude extract of garlic (*Allium sativum* L.) was studied in bone marrow cells of mice. Male laboratory-bred Swiss albino mice were given one of three concentrations of the freshly prepared extract (100 mg, 50 mg, and 25 mg/kg body weight) as a dietary supplement by gavage for 6 consecutive days. On the seventh day the mice were administered a single acute dose of two known clastogens, mitomycin C (1.5 mg/kg) and cyclophosphamide (25 mg/kg) or sodium arsenite (2.5 mg/kg), simultaneously with garlic extract. After 24 hr, chromosome preparations were made from the bone marrow cells. The endpoint studied were chromosomal aberrations and damaged cells. Garlic extract alone induced a low level of chromosomal damage. The clastogenicity of all three mutagens were reduced significantly in the animals which had been given garlic extract as dietary supplement. The extent of reduction was different for the three clastogens and may be attributed to the interaction with the different components of the extract. Author-abstract.

55

AN 93257884. 93000.

AU Zhao-Z-Z. Huang-M-T. Li-Q.

IN Hebei Cancer Institute, Shijiazhuang.

TI `Experimental study on tea in inhibiting mutational specificity of 6 antineoplastic drugs:.

SO Chung-Kuo-Chung-Hsi-I-Chieh-Ho-Tsa-Chih. 1992 Oct. 12(10). P 620-1, 582.

JT CHUNG-KUO CHUNG HSI I CHIEH HO TSA CHIH.

PT JOURNAL-ARTICLE (ART).

AB According to the principles of SOS response, the authors tested the mutational specificity of tea and its inhibitory effects to the mutational specificity of 6 antineoplastic drugs by using the method of mutational and anti-mutational synchronous test. The results revealed that the tea had no mutational toxicity but anti-mutation effect. It also had the inhibitory effect on mutational toxicity of 6 antineoplastic drugs, including Mitomycin C, Bleomycin, Fluorouracil, Cisdiaminodichloroplatinum, Arabinosylcytosin and Mustargen. These results have provided referential basis for further study on anti-cancer effect and clinical use of tea. Author-abstract.

56

AN 93254497. 93000.

AU Kargacin-B. Klein-C-B. Costa-M.

IN New York University Medical Center, Nelson Institute of Environmental Medicine, NY 10016.

TI Mutagenic responses of nickel oxides and nickel sulfides in Chinese hamster V79 cell lines at the xanthine-guanine phosphoribosyl transferase locus.

SO Mutat-Res. 1993 Jun. 300(1). P 63-72.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Mutagenesis of several insoluble nickel compounds--crystalline nickel sulfide NiS, nickel subsulfide Ni₃S₂, nickel oxides (black and green) and soluble NiCl₂ was studied in three Chinese hamster cell lines--at the hprt gene of the well-defined V79 cell line, and at gpt in two transgenic derivative cell lines G12 and G10. The transgenic cell line G12 responded very strongly to the insoluble Ni compounds, such that the gpt mutagenesis was at least 20 times higher than the spontaneous mutagenesis and in some experiments was even higher. In contrast the response of the G10 cells was much lower--the mutant frequencies only increased 2-3 times over the controls. In V79 cells, NiS and NiO (black) did not induce a mutagenic response at hprt. Soluble NiCl₂ also exhibited no mutagenic activity in V79 cells and induced considerably lower activity than the insoluble compounds in the transgenic G12 cells. Following vitamin E pretreatment of G12 cells for 24 h prior to nickel exposure, increased cell survival was observed for several insoluble Ni compounds whereas vitamin E had no effect on NiCl₂ cytotoxicity. With vitamin E pretreatment, significantly lower mutagenic responses in G12 cells were also noted for some insoluble Ni compounds, while no such effect was observed for NiCl₂. Author-abstract.

57

AN 93254496. 93000.

AU Gichner-T. Veleminsky-J. Wagner-E-D. Plewa-M-J.

IN Institute of Experimental Botany, Prague, Czech Republic.

TI Inhibitory effects of acetaminophen, 7,8-benzoflavone and methimazole towards N-nitrosodimethylamine mutagenesis in *Arabidopsis thaliana*.

SO Mutat-Res. 1993 Jun. 300(1). P 57-61.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The metabolic inhibitors acetaminophen, 7,8-benzoflavone, and methimazole significantly reduced the mutagenicity of the promutagen N-nitrosodimethylamine in the higher plant *Arabidopsis thaliana*. In contrast, these metabolic inhibitors had no effect on the mutagenicity of the direct-acting mutagen N-methyl-N'-nitro-N-nitrosoguanidine. Author-abstract.

58

AN 93254489. 93000.

AU Grover-I-S. Bala-S.

IN Department of Botany, Guru Nanak Dev University, Amritsar, India.

TI Studies on *antimutagenic* effects of guava (*Psidium guajava*) in *Salmonella typhimurium*.

SO Mutat-Res. 1993 Jun. 300(1). P 1-3.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The water and chloroform extracts of guava were tested for their

antimutagenicity. The water extract was effective in inactivating the mutagenicity of direct-acting mutagens, e.g., 4-nitro-o-phenylenediamine, sodium azide, and the S9-dependent mutagen, 2-aminofluorene, in the tester strains of *Salmonella typhimurium*. The chloroform extract was inactive. Autoclaving of the water extract for 15 min did not reduced its activity appreciably. The enhanced inhibitory activity of the extracts on pre-incubation suggests the possibility of desmutagens in the extracts. Besides ascorbic acid and citric acid, the major constituents of the extracts, the role of other *antimutagenic* factors in the extracts cannot be ruled out. Author-abstract.

59

AN 93240868. 93000.

AU Rizzi-R. Re-F. Bianchi-A. De-Feo-V. de-Simone-F. Bianchi-L. Stivala-L-A.

IN Dipartimento di Farmacologia, Chemioterapia e Tossicologia Medica, Universita degli Studi di Milano, Italy.

TI Mutagenic and *antimutagenic* activities of *Uncaria tomentosa* and its extracts.

SO J-Ethnopharmacol. 1993 Jan. 38(1). P 63-77.

JT JOURNAL OF ETHNOPHARMACOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Mutagenic and *antimutagenic* activities of extracts and chromatographic fractions of *Uncaria tomentosa* bark are reported. The plant extracts and fractions show no mutagenic effect in different strains of *Salmonella typhimurium* with and without metabolic activation. However, the plant extracts and fractions show a protective *antimutagenic* effect in vitro against photomutagenesis induced by 8-methoxy-psoralen (8-MOP) plus UVA in *S. typhimurium* TA 102. A decoction of *U. tomentosa* ingested daily for 15 days by a smoker decreased the mutagenicity induced in *S. typhimurium* TA98 and TA100 by the subject's urine. Author-abstract.

60

AN 93231611. 93000.

AU al-Harbi-M-M.

IN Department of Pharmacology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.

TI Effect of captopril on the cytological and biochemical changes induced by adriamycin.

SO Food-Chem-Toxicol. 1993 Mar. 31(3). P 209-12.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Captopril, an angiotensin-converting enzyme inhibitor, was evaluated for its *antimutagenic* potential. Male Swiss albino mice (6-8 wk old) were treated orally with different doses of captopril dissolved in water for 7 days. Some of the mice in each group were injected ip with adriamycin (ADM; 15 mg/kg body weight) and killed after 30 hr. Femoral cells of mice were collected and studied for reduction of

micronuclei. Proteins, RNA and DNA were determined in hepatic cells. Captopril pretreatment was found to reduce ADM-induced micronuclei in polychromatic cells and increase the quantity of protein, RNA and DNA in hepatic cells. The inhibition of clastogenicity observed may be due to free-radical scavenging action of captopril.
Author-abstract.

61

AN 93223563. 93000.
AU Zhao-Z-Z. Huang-M-T.
IN Hebei Cancer Institute, Shi Jiazhuang.
TI `A study of vitamin inhibition on the mutagenicity of the antineoplastic drugs:.
SO Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chih. 1992 Sep. 26(5). P 291-3.
JT CHUNG-HUA YU FANG I HSUEH TSA CHIH CHINESE JOURNAL OF PREVENTIVE MEDICINE.
PT JOURNAL-ARTICLE (ART).
AB The inhibitory effects on the mutational specificity of antineoplastic drugs of 14 kinds of vitamin were tested with the method of mutational and anti-mutational synchronous test, add S9 and no S9. Vit C, Vit B6, and nicotinic acid had distinct inhibitory effects on the mutational specificity of 6 antineoplastic drugs, namely, mitomycin C, bleomycin, fluorouracil, cis-Diaminodichloroplatinum, arabinosylcytosine and mustargen Vit K3 showed inhibitory effect to mitomycin C, fluorouracil, cis-diaminodichloroplatinum, and arabinosylcytosine but Vit AD, Vit B1, Vit B2, Vit Bco, Vit D3, Vit E, Rutin, Vit K1, Vit K4 and folic acid did not. The fact that Vit C, Vit B6, nicotinic acid and Vit K3 showed anti-mutational effects is of some significance with reference to clinical therapeutics and prevention of tumours.
Author-abstract.

62

AN 93222723. 93000.
AU Zasukhina-G-D. Sinelshchikova-T-A.
TI `Mutagenesis, antimutagenesis, DNA repair:.
SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 9-14.
JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB The paper presents a classification of *antimutagens* and the mechanism of their action. The mutagens included interferons and vitamins. The paper also provides evidence for the unique protective action of interferons against various mutagens and reveals their activity depending on the genotype of cells, in some DNA repair-deficiency cells, interferons failed to act. Surveys of workers contacting with heavy metals who were on ascorbic acid, retinol or their combination have indicated a reduction in chromosomal aberrations, sister chromatid exchanges and stimulation of DNA repair, which are induced by reference mutagens in the lymphocytes in vitro. Author-abstract.
29 Refs.

63

AN 93222721. 93000.

AU Arutiunian-R-M. Sarkisian-T-F.

TI `Intergroup differences in anticlastogenesis:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 52-5.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The paper deals with the mechanisms of anticlastogenesis protection of chromosomes in cultured human cells, which depend on many external and internal factors and may vary in genetic risk groups and in individuals. It also analyzes the role of repair and metabolic disturbances in the observed inter- and intragroup differences in the efficiency of protective action in model test systems. Results of comparative analysis of the efficiency of various interferons in the cultured cells from patients with bronchial asthma are presented. The paper first provides evidence for attenuated protective effects in the cultured lymphocytes from patients with xeroderma pigmentosum or chronic recurrent urticaria as compared to those from healthy donors. Prospects of and optimal methodological approaches to the study of anticlastogenesis in human cells are discussed. Author-abstract. 27 Refs.

64

AN 93222720. 93000.

AU Umnova-N-V. Prihodko-A-Z. Astashkin-E-I. Poroshenko-G-G.

TI `The *antimutagenic* action of inhibitors of microsomal mono-oxygenases:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 47-51.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART).

65

AN 93222718. 93000.

AU Khudolei-V-V.

TI `The modifications of mutagenesis and anticarcinogenesis:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 34-41.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The problems of anticarcinogenesis are discussed in the context of mechanistic approaches and the well-known mechanisms of multistage carcinogenesis. Various events at extra- and intracellular levels are involved in mutagenesis and carcinogenesis. The most promising candidates for suppression of chemical carcinogenesis are some nitrosation modifiers, dietary sorbents, metabolic activation modulators, reactive metabolite trappers, repair inducers, gene expression inhibitors, etc. Short-term tests for mutagenicity are more preferable for screening potential anticarcinogenic agents. The bioassays for anticarcinogenesis should be assessed for sensitivity, specificity and predictability and the genetic profiles of the

antimutagenic activity of the modifiers analysed. Author-abstract.
60 Refs.

66

AN 93222716. 93000.

AU Goncharova-R-I.

TI `Antimutagenesis as a genetic process:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 26-33.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The concept that antimutagenesis is a normal genetic process whose function is to ensure integrity and stability of hereditary structures has been formulated and substantiated. The phenomenon of antimutagenesis is realized by the *antimutagenic* cell system, forming the first level of DNA protection from the mutagenic influences of endogenous and exogenous agents. Repair systems constitute the second protective level. The common mechanism of the protective action of exogenous *antimutagens* is that they act through the *antimutagenic* system components and/or the repair systems. The resistance of organisms to external factors and damaged to their cell systems is determined by a set of components and the intensity of *antimutagenic* and repair functioning. Author-abstract. 83 Refs.

67

AN 93222715. 93000.

AU Durnev-A-D. Seredenin-S-B.

TI `The pharmacological problems of searching for and using
antimutagens:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (1). P 19-26.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB To design protectants of human genomic structures against mutagenic effects is defined as a new pharmacological problem; the perspectives of its solution are outlined. The experimental evidence that formed the biological basis for searching for pharmacological correctors of the mutagenic effects produced by xenobiotics is analysed, the basic principles for designing pharmacological protectants of genetic structures are formulated. Great emphasis is laid on the *antimutagenic* properties of antiradical agents. Evidence is provided for that there are no prospects of searching for pharmacological protectants among natural and synthetic phenol compounds. It is noted that the informative value of microbiological tests is poor. To design a corrector of the damaging action of each particular mutagen is shown to be an independent scientific problem which can be solved only by employing eukaryotic test systems. The areas of possible application of *antimutagens* are defined and some known examples of their use to protect human genetic structures are presented. Author-abstract. 119 Refs.

68

AN 93220277. 93000.

AU Sergeev-A-V. Syrkin-A-B. Shliankevich-M-A.

TI `Development of substances for active prevention of cancer based on vitamins and preventive-treatment products:.

SO Vopr-Med-Khim. 1992 Nov-Dec. 38(6). P 5-8.

JT VOPROSY MEDITSINSKOI KHIMII.

PT JOURNAL-ARTICLE (ART).

AB The conception and program are described for development of drugs involved in active prophylaxis of malignant neoplasms. Development of prophylactic drugs and new treatment-prophylactic food-stuffs was shown to be possible and expedient to use toxic immunomodulators and natural anticarcinogens. Complex drugs are assumed to include carotenoids, tocopherols, water-soluble vitamins, polysaccharides and other biologically active substances exhibiting anticarcinogenic, *antimutagenic* and immunostimulating properties. New treatment-prophylactic food-stuffs are developed using milk protein concentrates, lyophilized cruciferous and vegetable juices and extracts of medicinal herbs. The work is realized in the research association involving academic, branch and educational institutions according to State priority programs. Author-abstract.

69

AN 93220263. 93000.

AU Shliankevich-M-A. Drize-O-B. Khabibulina-V-M. Sergeev-A-V.

Privalova-E-G. Nikitiuk-V-G.

TI *`Antimutagenic* properties of substances containing beta-carotene:.

SO Vopr-Med-Khim. 1992 Nov-Dec. 38(6). P 23-5.

JT VOPROSY MEDITSINSKOI KHIMII.

PT JOURNAL-ARTICLE (ART).

AB Two carotene-containing drugs (natural and artificial) were shown to decrease the rate of chromosomal aberrations, induced by cyclophosphane, in bone marrow cells of mice, daily ration of which contained 10-20 mg/kg of beta-carotene within 1-3 weeks. The rate of chromosomal aberrations induced was decreased 1.5-2-fold in various experiments. Artificial beta-carotene exhibited aftereffect within at least 3 days, while its protective effect was decreased about by 20% within 7 days after administration. Author-abstract.

70

AN 93217652. 93000.

AU Santamaria-L. Bianchi-Santamaria-A.

IN Camillo Golgi Institute of General Pathology, University of Pavia, Italy.

TI Carotenoids in cancer chemoprevention and therapeutic interventions.

SO J-Nutr-Sci-Vitaminol (Tokyo). 1992. Spec No. P 321-6.

JT JOURNAL OF NUTRITIONAL SCIENCE AND VITAMINOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Carotenoid (CARs: beta-carotene BC and/or canthaxanthin CX) supplementation have been shown to be chemopreventive in animals, since 1980, against direct or indirect chemical

carcinogenesis/photo-carcinogenesis of the skin, breast, stomach, salivary glands, colon-rectum, urinary bladder, and against transplanted tumors. This action could be either independent of or dependent on pro-vitamin A activity of BC. In vitro, both BC and CX proved to be *antimutagenic* and to have anti-malignant transformation properties in cell cultures. Preliminary interventions in humans with BC +/- CX prevented the onset of second primary tumors in lung, colon, urinary bladder, and head and neck. The powerful antioxidant properties of CARs, possibly associated with their retinoid potential, played a role in all the above observations, producing free-radical quenching and immunostimulation.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract. 29 Refs.

71

AN 93215622. 93000.

AU Dhir-H. Roy-A-K. Sharma-A.

IN Department of Botany, University of Calcutta, India.

TI Relative efficiency of *Phyllanthus emblica* fruit extract and ascorbic acid in modifying lead and aluminium-induced sister-chromatid exchanges in mouse bone marrow.

SO Environ-Mol-Mutagen. 1993. 21(3). P 229-36.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The identification of desmutagens and bioantimutagens in plants has prompted the search for additional plant extracts capable of modifying adverse cellular effects of environmental toxicants. The protective action of crude extracts of *Phyllanthus emblica* fruits (PFE) against lead (Pb) and aluminium (Al)-induced sister chromatid exchanges (SCEs) was studied in bone marrow cells of *Mus musculus*. The modifying effect of the crude extract was compared with that of comparable amounts of synthetic ascorbic acid (AA), a major component of the fruits. Oral administration of PFE or AA for 7 consecutive days before exposure of mice to the metals by intraperitoneal injections reduced the frequencies of SCEs induced by both metals. PFE afforded a more pronounced protective effect than AA in counteracting the genotoxicity induced by both Al and Pb: This difference was significant with Pb. The higher protection afforded by PFE may be attributed to the interaction of AA with other natural ingredients present in the crude fruit extract. Author-abstract.

72

AN 93215621. 93000.

AU Camoirano-A. De-Flora-S. Dahl-T-A.

IN Institute of Hygiene and Preventive Medicine, University of Genoa, Italy.

TI Genotoxicity of volatile and secondary reactive oxygen species generated by photosensitization.

SO Environ-Mol-Mutagen. 1993. 21(3). P 219-28.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Reactive oxygen species were generated in the gas phase by photosensitization involving illumination of Rose Bengal. Depending on whether the chromophore is dry or solubilized, this system produces either energy-transfer reactions leading to generation of singlet oxygen specifically, or a combination of energy-transfer and electron-transfer reactions, providing both singlet oxygen and reduced forms of oxygen, such as superoxide anion and hydrogen peroxide. In neither case were the reactive species mutagenic in strain TA104 of *Salmonella typhimurium*, which had been previously shown to be reverted by oxygen species generated by the hypoxanthine-xanthine oxidase system in aqueous medium. However, mixed oxygen species induced an increased lethality in a variety of DNA repair-deficient *Escherichia coli* strains. This genotoxic effect, mainly reparable by the *uvrA* and *recA* mechanisms, was efficiently prevented by the thiol N-acetyl-L-cysteine. Singlet oxygen itself failed to exert direct genotoxic effects, although secondary reactants produced by its reaction with cell components enhanced lethality in some repair-deficient bacteria. Distance-dependence analyses provided measurements of the lifetimes of the oxygen species generated in the gas phase. Author-abstract.

73

AN 93211434. 93000.
AU Yamada-T. Osawa-T. Kawakishi-S. Uda-K. Ohta-T.
IN Department of Food Science and Technology, Nagoya University, Japan.
TI *Antimutagenic* effects of N-methyl-valyl-amiclenomycin (BA-2) isolated from the metabolites of *Streptomyces* sp.
SO Mutat-Res. 1993 Apr. 286(2). P 293-7.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB A novel *antimutagenic* factor, BA-2, active against UV-induced mutagenesis in *Escherichia coli* WP2 was isolated from the metabolites of *Streptomyces* sp. strain AJ9455. BA-2 also suppressed mutations induced by 4-nitroquinoline N-oxide (4-NQO) and furylfuramide (AF-2) in *E. coli* WP2s (*uvrA*) without any decrease of cellular viability. BA-2 strongly inhibited the UV induction of SOS repair functions when it was monitored by beta-galactosidase activity expressed from the *sulA::lacZ* fusion gene of strain PQ37. It is assumed that the *antimutagenic* effect of BA-2 on mutagenesis induced by UV, 4-NQO or AF-2 was the result of inhibition of induction of the inducible error-prone SOS repair. The structure of BA-2 was considered to be N-methyl-valyl-amiclenomycin, and the structural unit of 4-amino-2,5-cyclohexadiene must be essential for the *antimutagenic* activity, since deamination by heating results in the loss of *antimutagenic* activity of BA-2. Author-abstract.

74

AN 93211427. 93000.
AU Sasaki-Y-F. Yamada-H. Shimoi-K. Kator-K. Kinai-N.
IN Laboratory of Food Hygiene, School of Food and Nutritional Sciences,

University of Shizuoka, Japan.

TI The clastogen-suppressing effects of green tea, Po-lei tea and Rooibos tea in CHO cells and mice.

SO Mutat-Res. 1993 Apr. 286(2). P 221-32.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The suppressing effects of crude extracts of three kinds of tea-green tea (GT) from Japan, Po-lei tea (PT) from China, and Rooibos tea (RT) from South Africa-on the induction of chromosome aberrations in cultured CHO cells and mice were studied. When CHO cells were exposed to each tea extract in the presence of rat liver microsomal enzymes (S9 mix) together with benzo`a:pyrene (B(a)P) or mitomycin C (MMC), a decrease in the frequency of chromosome aberrations was observed. PT and RT, but not GT, also suppressed the induction of chromosome aberrations by MMC in the absence of S9 mix. When cells were treated with tea extract after B(a)P or MMC treatment, RT suppressed the induction of chromosome aberrations in the presence and absence of S9 mix whereas GT and PT showed suppressing effects only in the presence of S9 mix. These data suggest that catechines, well-known *antimutagens* in tea samples, might account for the inhibitory effect in the case of GT and PT. Since RT contains few catechines, several unknown *antimutagenic* components could be responsible for its effect. The *antimutagenic* effects of tea extracts at concentration levels consumed by humans were examined in mice using micronucleus induction with B(a)P or MMC. When mice received oral gavage of 0.2% GT, 0.1% PT, and 0.1% RT at 1.0 ml/mouse 6 h before intraperitoneal injection of MMC, a decrease in the frequency of micronuclei was observed. The induction of micronuclei by B(a)P was suppressed by oral dosage of GT, PT and RT at 1.0 ml/mouse/day for 28 days. This was not due to a delay in the maturation of micronucleated reticulocytes. In conclusion, intake of tea might suppress the mutagenic activity of certain potent mutagens in human beings. Author-abstract.

75

AN 93211421. 93000.

AU Leitao-A-C. Soares-R-A. Cardoso-J-S. Guillobel-H-C. Caldas-L-R.

IN Instituto de Biofisica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Brazil.

TI Inhibition and induction of SOS responses in Escherichia coli by cobaltous chloride.

SO Mutat-Res. 1993 Apr. 286(2). P 173-80.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Mutagenesis induced by several genotoxic agents has been reported to be inhibited by cobaltous chloride. In order to study the effects of this metal in some SOS functions we evaluated mutagenesis, lysogenic induction and phage reactivation in Escherichia coli cells treated with CoCl₂. We detected that cobaltous chloride, when present in the plating medium, was able to block mutagenesis and lysogenic induction

promoted by UV irradiation. We also found that CoCl₂ blocked protein synthesis, so we propose that this effect can be responsible for the *antimutagenic* and antilyso-genic effects of this metal. On the other hand, if the cells were treated for a short period of time with CoCl₂, in the absence of Mg, we observed that cobaltous chloride per se was able to promote lysogenic induction as well as to enhance the phage reactivation induced by UV irradiation. We conclude that depending on experimental conditions, cobaltous chloride may act either as an inhibitor or as an inducer of the SOS functions.
Author-abstract.

76

AN 93201692. 93000.
AU Mukundan-M-A. Chacko-M-C. Annapurna-V-V. Krishnaswamy-K.
IN National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
TI Effect of turmeric and curcumin on BP-DNA adducts.
SO Carcinogenesis. 1993 Mar. 14(3). P 493-6.
JT CARCINOGENESIS.
PT JOURNAL-ARTICLE (ART).
AB Many human cancers that are widely prevalent today can be prevented through modifications in life-styles, of which diet appears to be an important agent. Several dietary constituents modulate the process of carcinogenesis and prevent genotoxicity. Many plant constituents including turmeric appear to be potent *antimutagens* and antioxidants. Therefore the modulatory effects of turmeric and curcumin on the levels of benzo`a:pyrene induced DNA adducts in the livers of rats were studied by the newly developed 32P-postlabelling assay method. Turmeric when fed at 0.1, 0.5 and 3% and the active principle of turmeric (curcumin) when fed at a level of 0.03% in the diet for 4 weeks significantly reduced the level of BP-DNA adducts including the major adduct dG-N2-BP, formed within 24 h in response to a single i.p. injection of benzo`a:pyrene. The significance of these effects in terms of the potential anticarcinogenic effects of turmeric is discussed. Further, these results strengthen the various other biological effects of turmeric which have direct relevance to anticarcinogenesis and chemoprevention. Author-abstract.

77

AN 93201683. 93000.
AU Wise-J-P. Orenstein-J-M. Patierno-S-R.
IN Department of Pharmacology, George Washington University Medical Center, Washington, DC 20037.
TI Inhibition of lead chromate clastogenesis by ascorbate: relationship to particle dissolution and uptake.
SO Carcinogenesis. 1993 Mar. 14(3). P 429-34.
JT CARCINOGENESIS.
PT JOURNAL-ARTICLE (ART).
AB Chromium metal salts are considered to be human carcinogens, especially the salts of low solubility. Lead chromate, a highly

insoluble chromium metal salt, has been shown to be tumorigenic, genotoxic and clastogenic. In this study, the roles of particle-cell contact, particle dissolution and particle uptake in the clastogenic activity of lead chromate were investigated. Using Pb51CrO4 it was found that lead chromate particles (1.2 microns mean diameter, -28 mV surface charge) were slightly soluble in water; solubility increased 2-fold when particles were incubated in culture medium, but was not increased further by the addition of serum. The extracellular concentration of chromium increased 7-fold when lead chromate was incubated in the presence of Chinese hamster ovary (CHO) cells compared with culture medium alone. The intracellular concentration of ionic chromium increased in a dose-dependent manner following exposure of CHO cells to clastogenic doses of lead chromate reaching estimated levels as high as 1.2 mM per cell. Treatment of cells with lead chromate particles in the presence of a nontoxic dose of vitamin C blocked uptake of ionic chromium and eliminated the clastogenic activity of the particles. Transmission electron microscopy showed that lead chromate particles were internalized by CHO cells in phagocytic vacuoles in as little as 1 h; internalization was unaffected by co-treatment with vitamin C. It was demonstrated that particle-cell contact was required for lead chromate-induced clastogenesis. These data show that although phagocytic particle uptake occurs, particle-cell contact and extracellular dissolution are responsible for the clastogenic activity of lead chromate. These data also demonstrate that the genotoxicity of particulate hexavalent chromates can be blocked by vitamin C. Author-abstract.

78

AN 93195693. 93000.

AU Yamamoto-K. Osaki-Y. Kato-T. Miyazaki-T.

IN Tokyo College of Pharmacy, Japan.

TI *Antimutagenic* substances in the Armeniaceae semen and Persicae semen:.

SO Yakugaku-Zasshi. 1992 Dec. 112(12). P 934-9.

JT YAKUGAKU ZASSHI. JOURNAL OF THE PHARMACEUTICAL SOCIETY OF JAPAN.

PT JOURNAL-ARTICLE (ART).

AB Using the Ames/Salmonella/microsome assay, we examined the *antimutagenic* effect of the hexane extract of Armeniaceae semen (apricot (*Prunus armeniaca* L.) seed), Persicae semen (peach (*P. persica* Bat.) seed), and seeds of cherry (*P. avium* L.), plum (*P. salicina* Lindl.) and almond (*P. dulcis* Mill). Hexane extracts of Armeniaceae semen and Persicae semen inhibited the mutagenicity of benzo(a)pyrene (B(a)P), but those of seeds of cherry, plum and almond did not. The mutagenicities of 3-amino-1,4-dimethyl-5H-pyrido(4,3-b)indole (Trp-P-1) and 2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide (AF-2) were also inhibited by the extracts of Armeniaceae semen and Persicae semen. Inhibitory substances in Persicae semen were fractionated by silica gel column chromatography and high performance liquid chromatography, and were identified as oleic acid and linoleic acid. The contents of oleic

acid and linoleic acid were 0.7 and 0.4% in the hexane extract of Armeniaceae semen, and 1.5 and 0.5% in that of Persicae semen, respectively. Author-abstract.

79

AN 93189666. 93000.

AU Koratkar-R. Das-U-N. Sagar-P-S. Ramesh-G. Padma-M. Kumar-G-S. Vijay-K. Madhavi-N.

IN Department of Medicine, Nizam's Institute of Medical Sciences, Hyderabad, India.

TI Prostacyclin is a potent anti-mutagen.

SO Prostaglandins-Leukot-Essent-Fatty-Acids. 1993 Feb. 48(2). P 175-84.

JT PROSTAGLANDINS LEUKOTRIENES AND ESSENTIAL FATTY ACIDS.

PT JOURNAL-ARTICLE (ART).

AB Prostacyclin (PGI₂) prevented genetic damage to the bone marrow cells of mice induced by gamma-radiation, benzo(a)pyrene(BP) and cis-platinum(cis-DDP). Carba-PGI₂, an analogue of PGI₂, was also effective against cis-DDP-induced mutagenicity. In a time-course study it was observed that the geno-protective action of PGI₂, can last as long as 24 hr. 6-keto-PGF₁ alpha, a major metabolite of PGI₂ and c-AMP, a second messenger, were ineffective in bringing about this beneficial action. PGI₂ did not influence free radical generation induced by phorbol myristate acetate in human peripheral leukocytes. This suggests that the genoprotective action of PGI₂ is not mediated by its metabolite 6-keto-PGF₁ alpha and the second messenger cyclic-AMP and is not due to any action on free radical generation. This geno-protective action of PGI₂ would be futile if it interfered with the tumoricidal action of cis-DDP. It was observed that the cytotoxic action of cis-DDP against Meth-A tumor cells was not interfered with by PGI₂ and carba-PGI₂ both in vitro and in vivo. This description of the geno-protective action of PGI₂ is important in the development of new strategies in cancer chemotherapy since, it is likely that anticancer drugs, at least cis-DDP can be given along with PGI₂ to prevent genetic damage to normal cells without interfering with their tumoricidal action. Author-abstract.

80

AN 93182293. 93000.

AU Aliev-A-A. Ragimova-G-K. Gadzhiev-R-R. Alekperov-U-K.

TI `The interrelation of the *antimutagenic* action of mannitol to its effect on cellular metabolic processes:.

SO Tsitol-Genet. 1992 Nov-Dec. 26(6). P 9-13.

JT TSITOLOGIJA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The mannitol influence on mutagenesis of ionizing radiation and cyclophosphate has been studied in albino mongrel rats using the methods of genetic and biochemical analysis. N correlation is determined between *antimutagenic* action of this preparation and a

decrease of malondialdehyde content in cells and free fractions of matrix lysosomes (beta-galactosidase; N-acetyl-beta-D-glucosaminidase) and firmly membrane-structured microsomal (glucose-6-phosphatase) enzymes, whose level increases under the influence of mutagens. It is shown that, one of the way of *antimutagenic* actions of mannitol is connected with mutagenesis correction at the stage of origin of mutagenic products and their transport to chromosome DNA. Author-abstract.

81

AN 93177696. 93000.

AU Fortini-P. Calcagnile-A. Vrieling-H. van-Zeeland-A-A. Bignami-M. Dogliotti-E.

IN Laboratory of Comparative Toxicology and Ecotoxicology, Istituto Superiore di Sanita, Rome, Italy.

TI Mutagenic processing of ethylation damage in mammalian cells: the use of methoxyamine to study apurinic/apyrimidinic site-induced mutagenesis.

SO Cancer-Res. 1993 Mar 1. 53(5). P 1149-55.

JT CANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The aldehyde reagent methoxyamine is able to interact with apurinic/apyrimidinic sites formed in vivo within cells and displays both an anti-cytotoxic and an *antimutagenic* activity on N-ethyl-N'-nitro-N-nitrosoguanidine-induced DNA damage in Chinese hamster ovary cells. To clarify the underlying mechanism we have examined the mutational spectra induced by N-ethyl-N'-nitro-N-nitrosoguanidine alone and in the presence of methoxyamine in the hypoxanthine-guanine phosphoribosyltransferase gene of Chinese hamster ovary cells. In both cases all mutations were base pair substitutions, and their distribution among various classes did not differ significantly. Almost 60% were transitions, predominantly GC to AT, and the remaining 40% were transversions, mainly at AT base pairs. The analysis of the proportion of the different types of mutations showed that in the presence of methoxyamine, GC to AT transitions decreased by a factor of 1.8, and AT to CG transversions were reduced by a factor of 13. These data indicate that in mammalian cells the fixation of ethylation damage into mutations occurs by both (a) direct mutagenesis likely driven by O6-ethylguanine adducts and to a minor extent by O4-ethylthymine and (b) apurinic/apyrimidinic site-mediated mutagenesis. These apurinic/apyrimidinic sites are formed during the processing of ethylation at critical sites and are likely to involve O6-ethylguanine and O2-ethylthymine adducts. Author-abstract.

82

AN 93166396. 93000.

AU Abu-Shakra-A.

IN Experimental Carcinogenesis and Mutagenesis Branch, National Institute of Environmental Health Sciences, Research Triangle Park,

North Carolina 27711.

TI The modulatory effects of tryptamine and tyramine on the S9-mediated mutagenesis of IQ and MeIQ in Salmonella strain TA98.

SO Teratogenesis-Carcinog-Mutagen. 1992. 12(4). P 187-96.

JT TERATOGENESIS, CARCINOGENESIS, AND MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The S9-mediated mutagenesis of IQ and MeIQ in Salmonella strain TA98 was modulated by introduction to the assay of tryptamine or tyramine. Both biogenic amines inhibited or enhanced the mutagenic response as a function of amine concentration, strain of rat used as the S9 source, and the IQ-type mutagen tested. Enhancement of IQ mutagenesis by tryptamine (10-80 microM) was observed in the presence of S9 preparations derived from Aroclor 1254-pretreated Fischer rats; the enhancing effect ceased at tryptamine concentrations > 160 microM. When Sprague-Dawley-S9 or Wistar-S9 were used for activation, the enhancement of IQ mutagenesis by tryptamine shifted to inhibition at tryptamine concentrations > 40 microM, with Sprague-Dawley-S9, and > 20 microM, with Wistar-S9. By contrast, MeIQ-mutagenesis was enhanced by tryptamine (10-160 microM), regardless of the rat strain used as S9 source. Tyramine was a weaker enhancer of MeIQ mutagenesis than was tryptamine and, unlike tryptamine, its inhibitory effects on IQ mutagenesis were observed only with Wistar-S9. Tryptamine (10-80 microM) inhibited cytochromes P450IA1 and P450IA2 activities, monitored by the O-deethylation of ethoxyresorufin and Glu-P-1 mutagenesis in TA98, respectively. These data suggest that the effects of biogenic amines on IQ and MeIQ bioactivation are complex. Furthermore, this study demonstrates that tryptamine and tyramine act both as enhancers (comutagens) and as inhibitors *(antimutagens)* of IQ and MeIQ mutagenesis, depending on the testing conditions. Author-abstract.

83

AN 93156743. 93000.

AU Olvera-O. Zimmering-S. Arceo-C. Cruces-M.

IN Departamento de Radiobiologia y Genetica, Instituto Nacional de Investigaciones Nucleares (I.N.I.N.), Edo de Mexico, Salazar, Mexico.

TI The protective effects of chlorophyllin in treatment with chromium(VI) oxide in somatic cells of Drosophila.

SO Mutat-Res. 1993 Mar. 301(3). P 201-4.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

84

AN 93156730. 93000.

AU Cozzi-R. Nicolai-M. Perticone-P. De-Salvia-R. Spuntarelli-F.

IN Dipartimento di Genetica e Biologia Molecolare, Universita La Sapienza, Rome, Italy.

TI Desmutagenic activity of natural humic acids: inhibition of mitomycin C and maleic hydrazide mutagenicity.

SO Mutat-Res. 1993 Mar. 299(1). P 37-44.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Humic acids are natural components of organic matter widespread in the environment. In spite of the incomplete knowledge about their composition, increasing interest in humic acid activity is justified by their ubiquity. Four different humic acids have been tested in Chinese hamster ovary cells in vitro, both alone and in combination with two well-known mutagens (mitomycin C and maleic hydrazide). Data about sister-chromatid exchanges, mitotic and proliferation indices were collected. Our results, on the whole, indicate: (i) a slight mutagenicity and toxicity of tested humic acids, probably due to chlorination during sample preparation; (ii) a desmutagenic rather than *antimutagenic* activity of the tested humic acids.
Author-abstract.

85

AN 93156729. 93000.

AU Hoda-Q. Sinha-S-P.

IN Department of Zoology, Bhagalpur University, India.

TI Vitamin C-mediated minimisation of Rogor-induced genotoxicity.

SO Mutat-Res. 1993 Mar. 299(1). P 29-36.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The genotoxic effect of Rogor (an organophosphorous pesticide) at concentrations used in agriculture was studied in terms of mitotic index in onion root-tip cells, chromosome abnormalities and meiotic index in mice and lastly, lethal mutation rate in *Drosophila*. It was observed that the pesticide could (i) cause mitotic as well as meiotic inhibition, (ii) increase the clastogenicity rate and (iii) induce lethal mutations. The modificatory role, if any, of L-ascorbic acid (vitamin C) was studied after administering the vitamin concurrently with the pesticide. It was observed that the cytogenetic toxicity of Rogor can be appreciably minimised by vitamin C. The possible mode of antigenotoxic action of vitamin C was discussed. Author-abstract.

86

AN 93156726. 93000.

AU Marquez-Marquez-R. Madrigal-Bujaidar-E. Tejada-de-Hernandez-I.

IN CENID Microbiologia, Palo Alto Cuajimalpa, Mexico.

TI Genotoxic evaluation of ammonium inactivated aflatoxin B1 in mice fed with contaminated corn.

SO Mutat-Res. 1993 Mar. 299(1). P 1-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Aflatoxin B1 (AFB1) is a major contaminant in different agricultural products including maize. In an attempt to reduce this problem and the hazards to human health, an AFB1 inactivating system with ammonia has been developed. In this work we evaluated the efficiency of the system in mice using micronucleus (MN) and sister chromatid exchange

(SCE) analysis. Four groups of animals were fed during 8 weeks with a special diet mainly composed of maize: (1) uncontaminated; (2) uncontaminated/inactivated; (3) contaminated/inactivated; and (4) contaminated. We evaluated MN at weekly intervals in peripheral blood, and in weeks 4 and 8 SCE frequencies were quantified in bone marrow cells. The results showed that animals fed with AFB1 contaminated/inactivated maize had a 45% lower level of induced cytogenetic damage than those animals fed with AFB1 contaminated, but not inactivated maize. A residual amount of AFB1 after the inactivating treatment and the reversion back to AFB1 in the organism may account for the remaining increased levels of SCE and MN. Author-abstract.

87

AN 93145413. 93000.

AU Villaseñor-I-M. Edu-D-A. Bremner-J-B.

IN Institute of Chemistry, University of the Philippines, Quezon City.

TI Structure of an *antimutagen* from *Carmona retusa* leaves.

SO Carcinogenesis. 1993 Jan. 14(1). P 123-5.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB An *antimutagenic* compound was isolated from the leaves of *Carmona retusa* (Vahl) Masam. Its structure has been elucidated by spectral analysis to be 4-hydroxy-7,8,11,12,15,7',8',11',12',15'-decahydro-beta, psi-carotene. The results of the Micronucleus Test, an in vivo method, showed that the isolated *antimutagenic* compound reduced by approximately 68.4% the number of micronucleated polychromatic erythrocytes induced by tetracycline, a known mutagen. Author-abstract.

88

AN 93137232. 93000.

AU Wong-B-Y. Lau-B-H. Yamasaki-T. Teel-R-W.

IN Department of Natural Science, Graduate School, Loma Linda University, CA 92350.

TI Modulation of cytochrome P-450IA1-mediated mutagenicity, DNA binding and metabolism of benzo(a)pyrene by Chinese medicinal herbs.

SO Cancer-Lett. 1993 Jan 15. 68(1). P 75-82.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB *Oldenlandia diffusa* (OD) and *Scutellaria barbata* (SB) have been used in traditional Chinese medicine for treating liver, lung and rectal tumors. We previously showed that they inhibited mutagenesis, DNA binding and metabolism of benzo(a)pyrene (BaP) and aflatoxin B1 (AFB1) bioactivated by Aroclor 1254-induced rat hepatic S9. The purpose of this study was to investigate the effects of OD and SB on the cytochrome P-450IA1-mediated mutagenicity of BaP in *Salmonella typhimurium* TA100 using beta-naphthoflavone (beta NF)-induced rat hepatic S9. We also determined the effects of OD and SB on

cytochrome P-450IA1-linked ethoxyresorufin O-deethylase (EROD) activity in beta NF-induced hepatic microsomes. In addition, we studied the effects of these two herbs on BaP metabolite binding to calf thymus DNA and using high performance liquid chromatography (HPLC) we investigated the effects of OD and SB on the metabolism of BaP by beta NF-induced S9. Our experimental results showed that OD and SB inhibited the mutagenicity of BaP in the presence of either non-induced or beta NF-induced S9. SB significantly inhibited BaP binding to DNA. These effects correlated with the inhibition of cytochrome P-450IA1-linked EROD activity in beta NF-induced microsomes and with an inhibition of beta NF-induced S9 mediated metabolism of ³H:BaP as determined by HPLC. These results suggest that OD and SB may possess *antimutagenic* activity by inhibiting P-450IA-mediated metabolism of BaP. Author-abstract.

89

AN 93128819. 93000.

AU Ames-B-N. Shigenaga-M-K.

IN Division of Biochemistry and Molecular Biology, University of California, Berkeley 94720.

TI Oxidants are a major contributor to aging.

SO Ann-N-Y-Acad-Sci. 1992 Nov 21. 663. P 85-96.

JT ANNALS OF THE NEW YORK ACADEMY OF SCIENCES.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB Very high level oxidative damage to DNA occurs during normal metabolism. In each rat cell the steady-state level of this damage is estimated to be about 10(6) oxidative adducts, and about 10(5) new adducts are formed daily. This endogenous DNA damage appears to be a major contributor to aging and to the degenerative diseases associated with aging such as cancer. The oxidative damage rate in mammalian species with a high metabolic rate, short life span, and high age-specific cancer rate such as rats is much higher than the rate in humans, long-lived mammals with a lower metabolic rate and a lower age-specific cancer rate. It is argued that deficiency of micronutrients that protect against oxidative DNA damage is a major contributor to human cancer. Epidemiological studies, a large body of experimental evidence, and theoretical work on the mechanisms of carcinogenesis point to mitogenesis as a major contributor to cancer. Dividing cells compared to nondividing cells are at an enormously increased risk for mutations in part due to the conversion of DNA adducts to mutations. Mitogenesis also increases the probability of gene amplification and loss of 5-methylcytosine. Dietary interventions that lower mitogenesis, such as calorie restriction, decrease the incidence of cancer. Author-abstract. 103 Refs.

90

AN 93124092. 93000.

AU Wall-M-E.

IN Research Triangle Institute, Research Triangle Park, North Carolina 27709.

TI *Antimutagenic* agents from natural products.
 SO J-Nat-Prod. 1992 Nov. 55(11). P 1561-8.
 JT JOURNAL OF NATURAL PRODUCTS.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 AB Certain secondary metabolites found in terrestrial and marine plants and organisms have evinced the capability for inhibiting the mutagenicity toward Salmonella typhimurium of a number of mutagens. These include 2-aminoanthracene (2AN), ethylmethanesulfonate (EMS), and benzo-`a:pyrene(B`alpha:P). The sensitivity of the antimutagenicity assay is such that crude extracts can be evaluated and purification of extracts readily followed. Major classes of *antimutagenic* compounds that have been isolated include flavonoids, coumarins, and cymopols. Author-abstract. 28 Refs.

91

AN 93118055. 93000.
 AU Brusick-D.
 IN Hazleton Washington, Vienna, VA 22182.
 TI Genotoxicity of phenolic antioxidants.
 SO Toxicol-Ind-Health. 1993 Jan-Apr. 9(1-2). P 223-30.
 JT TOXICOLOGY AND INDUSTRIAL HEALTH.
 PT JOURNAL-ARTICLE (ART).

92

AN 93116781. 93000.
 AU Aikawa-K. Miwa-M.
 IN National Institute of Animal Industry, Ibaraki, Japan.
 TI Temperature-dependent *antimutagenic* activity of acrolein in Escherichia coli.
 SO Mutat-Res. 1993 Feb. 301(2). P 93-7.
 JT MUTATION RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 AB The effect of temperature on the *antimutagenic* activity of acrolein was investigated using UV-irradiated E. coli B. When incubated at lower temperatures (30 degrees C or 37 degrees C), acrolein greatly reduced the mutation frequency in WP2 (wild-type strain), but no such effect was observed with WP2s and ZA159 (excision repair-deficient strains). The *antimutagenic* activity of acrolein increased when cells were incubated at higher temperatures (40 degrees C or 42 degrees C). Particularly in excision repair-deficient strains, the *antimutagenic* activity was observed only at higher temperatures. In heat shock response-deficient background, however, the *antimutagenic* activity was observed at 30 degrees C even in the excision repair-deficient strains. Author-abstract.

93

AN 93116776. 93000.
 AU Dominguez-I. Panneerselvam-N. Escalza-P. Natarajan-A-T. Cortes-F.
 IN Department of Cell Biology, Faculty of Biology, Sevilla, Spain.
 TI Adaptive response to radiation damage in human lymphocytes

conditioned with hydrogen peroxide as measured by the cytokinesis-block micronucleus technique.

SO Mutat-Res. 1993 Feb. 301(2). P 135-41.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB We have made use of the cytokinesis-block micronucleus method to evaluate the adaptive response in human lymphocytes from two donors conditioned with low doses of hydrogen peroxide before irradiation with either 1.5 or 3.0 Gy of X-rays. A protective effect of pre-exposure to H₂O₂ against radiation damage detected as micronuclei in binucleate cells was evident in cells allowed to recover for different periods after X-ray exposure, though cells challenged with 3.0 Gy of X-rays showed the adaptive response at later fixation time than those exposed to the lower dose (1.5 Gy). We propose this protocol as an interesting alternative to the single fixation method to score chromosomal aberrations at metaphase for the study of the adaptive response. Author-abstract.

94

AN 93116772. 93000.

AU al-Shabanah-O-A.

IN Department of Pharmacology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia.

TI Inhibition of adriamycin-induced micronuclei by desferrioxamine in Swiss albino mice.

SO Mutat-Res. 1993 Feb. 301(2). P 107-11.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Swiss albino male mice, 6-8 weeks old, were treated i.p. with different doses of desferrioxamine dissolved in water for 7 days. Some of the mice in each group were injected i.p. with adriamycin (15 mg/kg) and killed after 30 or 24, 48 and 72 h. The femoral cells of mice in different groups were collected and studied. Desferrioxamine treatment failed to affect the incidence of micronuclei at doses of 125-250 mg/kg/day. Pretreatment with desferrioxamine was found to provide significant protection against adriamycin-induced micronuclei without interfering with its cytotoxic potential. Author-abstract.

95

AN 93116769. 93000.

AU Perez-Chiesa-Y. Rodriguez-A.

IN Department of Biology, University of Puerto Rico, Rio Piedras 00931.

TI Absence of mutagenicity of benzo[c]phenanthridine alkaloids in somatic cells of *Drosophila melanogaster*: comparison with 7,12-dimethylbenz[a]anthracene and chrysene.

SO Mutat-Res. 1993 Feb. 298(4). P 277-83.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The wing somatic mutation and recombination test (SMART) of

Drosophila melanogaster was used to study the mutagenic potential of three benzo`c:phenanthridines with antileukemic properties, fagaronine, nitidine and O-methylfagaronine, as compared with that of two structurally related aromatic polycyclic hydrocarbons: 7,12-dimethylbenz`a:anthracene and chrysene. Although toxic to larvae, the benzo`c:phenanthridines and chrysene gave negative or inconclusive results while 7,12-dimethylbenz`a:anthracene was found to be highly mutagenic and recombinogenic as previously reported. These results suggest that the alkoxy groups and the quaternary nitrogen of the benzo`c:-phenanthridines may reduce or eliminate their mutagenicity in spite of their similarity to methylated polycyclic aromatic hydrocarbons. Author-abstract.

96

AN 93116765. 93000.

AU Zhang-X-B. Ohta-Y.

IN Laboratory for Microbial Biochemistry, Faculty of Applied Biological Science, Hiroshima University, Japan.

TI Antimutagenicity of cell fractions of microorganisms on potent mutagenic pyrolysates.

SO Mutat-Res. 1993 Feb. 298(4). P 247-53.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The inactivation of 3-amino-1,4-dimethyl-5H-pyrido`4,3-b:indole (Trp-P-1) and 2-amino-6-methyldipyrido`1,2-a: 3',2'-d:imidazole (Glu-P-1) by binding of mutagenic pyrolysate to fractions of microorganisms (their desmutagenic and *bio-antimutagenic* activity) was investigated. All strains bound Trp-P-1 effectively, but Glu-P-1 to a lesser extent. The Gram-negative bacteria (GNB) could bind about 10-20 micrograms/mg of Trp-P-1 more than the Gram-positive bacteria (GPB), and about 50-60 micrograms/mg more than the yeasts. The cell wall skeletons of all strains tested had great binding ability, but in the cytoplasm of all strains tested it was lower. The peptidoglycan, outer membrane, and glucan isolate from the cell wall skeletons showed the highest binding ability to Trp-P-1. The cell wall skeletons of the tested strains greatly inhibited the mutagenicity induced by Trp-P-1, and to a lower extent that of 2-amino-3,8-dimethylimidazo`4,5-f:quinoxaline (MeIQx). Although the cultured broth and solution of cells extracted by phosphate buffer (pH 7.0) showed antimutagenicity against Trp-P-1, this activity was lower than the binding of Trp-P-1 to the cells. The cultured broth and freeze-dried cytoplasm of yeast cells showed bio-antimutagenicity towards Trp-P-1, but those of all bacteria tested did not. Author-abstract.

97

AN 93116761. 93000.

AU Villasenor-I-M. Edu-D-A.

IN Institute of Chemistry, University of the Philippines, Dilman, Quezon City.

TI *Antimutagen* from leaves of Carmona retusa (Vahl) Masam.
SO Mutat-Res. 1993 Jan. 298(3). P 215-8.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB An *antimutagenic* principle was extracted from the leaves of Carmona retusa with ethyl alcohol. This was then purified by solvent partition and liquid chromatography. The micronucleus test, an in vivo method, using albino mice as the test system was used for monitoring the *antimutagenic* activity. At a dosage of 23.4 mg/kg body weight, the pure isolate reduced by 68.4% the number of micronucleated polychromatic erythrocytes induced by the mutagen tetracycline. Statistical analysis (one-way ANOVA) shows that the variance of the pure isolate differs significantly from that of tetracycline, a known mutagen. Author-abstract.

98

AN 93116754. 93000.
AU Khan-P-K. Sinha-S-P.
IN Department of Zoology, Bhagalpur University, India.
TI *Antimutagenic* efficacy of higher doses of vitamin C.
SO Mutat-Res. 1993 Jan. 298(3). P 157-61.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Vitamin C, when administered concurrently with a pesticide (endosulfan, phosphamidon or mancozeb), could significantly decrease the frequency of pesticide-induced clastogenic and mitosis-disruptive changes in the bone marrow cells of young Swiss albino mice. Of the three doses (10, 20 or 40 mg/kg b.wt./day) of the vitamin, the one which is double the human therapeutic dose (20 mg/kg b.wt./day) was most effective as an *antimutagen* to be followed by 40 mg and 10 mg. None of these doses of vitamin C showed any genotoxicity of their own for the parameters studied here. Author-abstract.

99

AN 93113796. 93000.
AU Malaveille-C. Hautefeuille-A. Brun-G. Vineis-P. Bartsch-H.
IN International Agency for Research on Cancer, Lyon, France.
TI Substances in human urine that strongly inhibit bacterial mutagenicity of 2-amino-1-methyl-6-phenylimidazo`4,5-b:pyridine (PhIP) and related heterocyclic amines.
SO Carcinogenesis. 1992 Dec. 13(12). P 2317-20.
JT CARCINOGENESIS.
PT JOURNAL-ARTICLE (ART).
AB Extracts of human urine were shown to contain substances that strongly inhibited the liver S9-mediated mutagenicity of 2-amino-1-methyl-6-phenylimidazo`4,5-b:pyridine (PhIP) in Salmonella typhimurium TA98 strain in a liquid incubation assay. The inhibitory effect was unrelated to cytotoxicity and was similar with urine extracts from smokers and non-smokers. Under similar assay conditions, the mutagenicity of the related amino-imidazoazaarenes,

2-amino-3-methyl-imidazo`4,5-f:quinoline,
2-amino-3,8-dimethylimidazo`4,5-f:-quinoline and
2-amino-3,8-dimethylimidazo`4,5-f:quinoxaline was also found to be
strongly inhibited by urine extracts. Decreased or enhanced
mutagenicity was seen with 2-acetyl-aminofluorene and
2-aminoanthracene depending on the type of assay, and the time of
incubation in liquid medium. A weak inhibition of the mutagenicity
of 2-nitrofluorene, a direct-acting mutagen, was observed only after
a short incubation time. Mutagenicity of 4-nitroquinoline N-oxide
was not altered by the presence of urine extracts at concentrations
shown to be inhibitory for the mutagenicity of heterocyclic aromatic
amines. Our data suggest that the inhibitory substances in urine act
through their capacity to non covalently bind the parent heterocyclic
and aromatic amines, thus affecting their availability in aqueous
medium for diffusion into liver microsomes where metabolic activation
takes place. Author-abstract.

100

AN 93109068. 93000.

AU Romert-L. Curvall-M. Jenssen-D.

IN Department of Genetic and Cellular Toxicology, Wallenberg Laboratory,
Stockholm University, Sweden.

TI Chlorophyllin is both a positive and negative modifier of
mutagenicity.

SO Mutagenesis. 1992 Sep. 7(5). P 349-55.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The mechanism responsible for the modification of mutagenicity by
chlorophyllin has been investigated using mutagenic compounds with
different mechanisms of action, including the monofunctional
alkylating agents, N-methyl-N'-nitrosourea (MNU) and
ethylmethanesulphonate (EMS); nitrosamines related to tobacco
products, i.e. dimethyl-nitrosamine (DMN), N-nitrosornicotine
(NNN) and 4-(N-methyl-N-nitrosoamino)-1-(3-pyridinyl)-2-butanone
(NNK); the polycyclic aromatic hydrocarbon (PAH) benzo`a:pyrene
(B`a:P) and two of its metabolites, i.e. (-)-7 beta,8
alpha-dihydroxy-7,8-dihydrobenzo`a:pyrene (7,8-diol) and (+)-7 beta,8
alpha-dihydroxy-9 alpha,10 alpha-oxy-7,8,9,10-
tetrahydrobenzo`a:pyrene (BPDE); and a complex mutagenic mixture, an
extract and subfractions of Swedish moist oral snuff (SMOS).
Mutagenicity was monitored with the Ames Salmonella/microsome assays
(STY) and hprt V79 point mutation assay (V79). The effects of
chlorophyllin on the mutagenicity of the nitrosamines in the STY
assays were found to be complex. In the presence of either NNN or
NNK, low concentrations of chlorophyllin actually potentiated the
mutagenicity > 2-fold. However, at higher, but still non-toxic
concentrations, chlorophyllin decreased the mutagenicity of both
compounds. The same type of dose-response relationship for
chlorophyllin was indicated in the V79 assay system with DMN,
although the effect was much weaker. The results with STY were

further confirmed by replacing chlorophyllin with another porphyrin compound, hemin. In contrast, biliverdin, a porphyrin structure without the central metal ion, was unable to potentiate the mutagenicity of NNK in STY.(ABSTRACT TRUNCATED AT 250 WORDS).
Author-abstract.

101

AN 93097565. 93000.
AU Zolotareva-G-N. Loginova-N-S. Parshina-O-V. Nosik-N-N.
TI `The effect of the interferon inducer ridostin on photrin-induced mutagenesis in bone marrow cells in mice:.
SO Vopr-Onkol. 1991. 37(7-8). P 834-8.
JT VOPROSY ONKOLOGII.
PT JOURNAL-ARTICLE (ART).
AB The number of aberrant metaphases was used to assess the influence of a highly active interferon inducer--ridostin, a two-spiral RNA, on spontaneous mutagenesis and that induced by an antitumor drug photrin. A new property of ridostin, viz. the *antimutagenic* effect, was established. The effect may be important for protection of cells from potent mutagens such as cytotoxic drugs used for cancer treatment. Author-abstract.

102

AN 93095993. 93000.
AU Sarkar-D. Sharma-A. Talukder-G.
IN Department of Botany, University of Calcutta, India.
TI Differential protection of chlorophyllin against clastogenic effects of chromium and chlordane in mouse bone marrow in vivo.
SO Mutat-Res. 1993 Jan. 301(1). P 33-8.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The anticlastogenic activity of sodium-copper-chlorophyllin was tested against two known clastogens, chromium(VI) oxide and the pesticide chlordane, both of which occur as environmental toxicants. The chemicals were administered to male Swiss albino mice by gavage and chromosomes were studied from bone marrow cells 24 h after the exposure, following colchicine-air drying-Giemsa preparation. The end-points screened were the frequencies of chromosomal aberrations and damaged cells. The clastogenic effects induced by chromium in aqueous solution (20 mg/kg body weight) were reduced to a significant level by chlorophyllin (1.5 mg/kg body weight), when administered both before and simultaneously with the toxicant. The effects of chlordane in olive oil (10 mg/kg body weight) were, however, not reduced by the administration of chlorophyllin (1.5 and 3 mg/kg body weight). Author-abstract.

103

AN 93093648. 93000.
AU Grover-I-S. Bala-S.
IN Department of Botanical Sciences, Guru Nanak Dev University,

Amritsar, India.

TI *Antimutagenic* activity of Terminalia chebula (myroblan) in Salmonella typhimurium.

SO Indian-J-Exp-Biol. 1992 Apr. 30(4). P 339-41.

JT INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Antimutagenicity of water and chloroform extracts of dried myroblan Terminalia chebula was determined against two direct acting mutagens, sodium azide and 4-nitro-o-phenylenediamine (NPD) in strains TA100 and TA1535, and TA97a and TA98 of Salmonella typhimurium respectively and S9-dependent mutagen 2-aminofluorene (2-AF) in TA97a, TA98 and TA100 strains. Water extract reduced NPD as well as 2-AF induced his+ revertants significantly but did not have any perceptible effect against sodium azide included his+ revertants in TA100 and TA1535 strains of S. typhimurium. The pre-incubation studies, where the extract was incubated at 37 degrees C for 30 min with the said mutagen prior to plating, enhanced the inhibitory effect. Autoclaving the water extract reduced the inhibitory effect but the reduction in the effect was not significant. No inhibitory effect was observed in any of the strains and against any of the test mutagens with chloroform extract. Author-abstract.

104

AN 93084965. 93000.

AU Hosoda-M. Hashimoto-H. Morita-H. Chiba-M. Hosono-A.

IN Technical Research Laboratory, Takanashi Milk Products Co. Ltd. Yokohama, Japan.

TI Studies on *antimutagenic* effect of milk cultured with lactic acid bacteria on the Trp-P2-induced mutagenicity to TA98 strain of Salmonella typhimurium.

SO J-Dairy-Res. 1992 Nov. 59(4). P 543-9.

JT JOURNAL OF DAIRY RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The inhibitory effects of cultured milk using 76 strains of lactic acid bacteria isolated from milk products were investigated on the mutagenicity of 3-amino-1-methyl-5H-pyrido`4,3-b:indole (Trp-P2), a tryptophan pyrolysate for Salmonella typhimurium TA98. Each cultured milk sample displayed its characteristic *antimutagenic* effect against the mutagenicity of Trp-P2. The milk cultured with Lactobacillus acidophilus LA106 (LA2) showed the highest inhibition of 82.1% among the strains used. Milk samples cultured with Lactococcus lactis subsp. lactis, L11103 (10-3) and L11102 (KM) also exhibited higher inhibition percentages. Author-abstract.

105

AN 93083314. 93000.

AU Zhao-Z-Z. Huang-M-T.

IN Hebei Cancer Institute, Shijiazhuang.

TI `A SOS induction test screening study for vegetables inhibiting mutagenicity caused by antineoplastic drugs:.

SO Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chih. 1992 Mar. 26(2). P 92-3.
JT CHUNG-HUA YU FANG I HSUEH TSA CHIH CHINESE JOURNAL OF PREVENTIVE
MEDICINE.
PT JOURNAL-ARTICLE (ART).
AB Using mutational and anti-mutational synchronous in SOS inductest
(+/- S9), We found that 7 out of 11 kinds of commonly eaten
vegetables had the ability to inhibit mutagenicity caused by chemical
drugs such as Mitomycin C, Bleomycinia, Fluorouracil,
Cis-Diaminodichloroplatinum, Arabinosylcytosin and mustargen, They
were garlic, green Chinese onion, onion, garlic bulb, tomato,
cucumber and water radish. The other 4 lacking this ability were
rape, chinese toon, ginger and asparagus lettuce stalk. We believe
that our results can be helpful in the preparation. of cancer
patients' diet, who are receiving chemotherapy and in the prevention
of cancer. Author-abstract.

106

AN 93083311. 93000.
AU Ruan-C-C.
IN Guangxi Cancer Institute, Nanning.
TI `Inhibition of eight natural foods on mutagenic effect by aflatoxin
B1 and extracts of fungi:.
SO Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chih. 1992 Mar. 26(2). P 83-5.
JT CHUNG-HUA YU FANG I HSUEH TSA CHIH CHINESE JOURNAL OF PREVENTIVE
MEDICINE.
PT JOURNAL-ARTICLE (ART).
AB Eight natural foods were tested for their *antimutagenic* activities on
AFB1, metabolic extracts of A. versicolor and A. ochraceus which
induced mutagenic activity in TA 98 and TA 100 mutants. The tested
substances were extracted repeatedly with acetone. The revertance
induced by AFB1, metabolic extracts of A. versicolor and A. ochraceus
were significantly decreased when the eight natural foods were added
into the medium. The results showed that the eight natural foods had
different degrees of anti-mutagenic effect in vitro, suggesting that
anti-mutagenic substances were present in these natural foods. It is
considered that these foods may be practically valuable in the
chemoprophylaxis of liver cancer in men. Author-abstract.

107

AN 93082001. 93000.
AU Krinsky-N-I.
IN Department of Biochemistry, Tufts University School of Medicine,
Boston, MA 02111-1837.
TI Anticarcinogenic activities of carotenoids in animals and cellular
systems.
SO EXS. 1992. 62. P 227-34.
JT EXS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB A large number of studies have indicated that carotenoid pigments act
as anticarcinogenic agents in animals treated with either ultraviolet

light, ultraviolet light with chemicals, or with chemical carcinogens alone. Although pharmacological doses of carotenoids were used in the early experiments, more recent evidence indicates that relatively small doses can be effective. These studies have been complemented by investigations in bacteria and mammalian tissue, either in cell culture or in organ culture, where it has been demonstrated that various carotenoid pigments can prevent mutagenesis, genotoxic effects, or malignant transformation. It would appear that these effects are intrinsic to the carotenoid molecule, and not necessarily due to the metabolic conversion to retinoids. Partially based on these observations, it has been suggested that carotenoid pigments may function as chemopreventive agents for reducing the risk of cancer in humans. Numerous studies are underway to test this hypothesis. Author-abstract. 44 Refs.

108

AN 93075557. 93000.

AU Trizna-Z. Hsu-T-C. Schantz-S-P. Lee-J-J. Hong-W-K.

IN Department of Medical Oncology, University of Texas M.D. Anderson Cancer Center, Houston 77030.

TI Anticlastogenic effects of 13-cis-retinoic acid in vitro.

SO Eur-J-Cancer. 1992. 29A(1). P 137-40.

JT EUROPEAN JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

AB The anticlastogenic effects of 13-cis-retinoic acid were studied in four human lymphoblastoid cell lines and in primary lymphocyte cultures derived from the peripheral blood of 11 study subjects. Cells were pre-incubated with 13-cis-retinoic acid in the concentration range of 10^{-8} - 10^{-5} mol/l for 24 h and the numbers of chromatid breaks per cell induced by bleomycin were determined. The presence of 13-cis-retinoic acid decreased the number of breaks per cell by 13.0 to 59.5% in lymphoblastoid cell lines and by 0 to 57.4% in primary lymphocyte cultures (in the concentration ranges of 10^{-8} - 10^{-6} mol/l and of 10^{-8} - 10^{-5} mol/l, respectively). Regression analysis showed that there was a statistically significant correlation between the presence of 13-cis-retinoic acid and protection against bleomycin-induced clastogenicity. These data give additional information to the knowledge of possible chemopreventive mechanisms of action of 13-cis-retinoic acid. Author-abstract.

109

AN 93068994. 93000.

AU Frank-A-A. Collier-J-M. Forsyth-C-S. Heur-Y-H. Stoner-G-D.

IN College of Veterinary Medicine, Oregon State University, Corvallis 97331-4802.

TI Ellagic acid protects rat embryos in culture from the embryotoxic effects of N-methyl-N-nitrosourea.

SO Teratology. 1992 Aug. 46(2). P 109-15.

JT TERATOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Ellagic acid is a naturally occurring plant phenol that has demonstrated anticarcinogenic and *antimutagenic* activity in several test systems. Given the common proposed etiopathogenic processes of mutagenesis, carcinogenesis, and teratogenesis induced by genotoxic chemicals, the present study was initiated to determine whether ellagic acid would protect rat embryos in culture from the teratogenic effects of N-methyl-N-nitrosourea (MNU). Ellagic acid alone (as used in these experiments; 50 microM in DMSO) was not embryotoxic. Ellagic acid (50 microM) significantly (P less than 0.01) prevented MNU (75 microM)-induced effects including mortality (absence of heart beat), abnormal formation of the cephalic neural tube derivatives, and delayed differentiation as assessed by a morphological scoring system. These embryoprotective effects were dose responsive. Sequential treatment of embryos with ellagic acid followed by MNU in fresh media also was embryoprotective with no diminution of effect. The site at which ellagic acid interrupts the critical teratogenic events induced by MNU is apparently within the embryo and/or placenta. This model of chemical embryoprotection may be useful in determining the role of cell death and/or mutation in the teratogenic mechanism of action of methylating agents.
Author-abstract.

110

AN 93065413. 93000.

AU Boukharta-M. Jalbert-G. Castonguay-A.

IN Laboratory of Cancer Etiology and Chemoprevention, School of Pharmacy, Laval University, Quebec City, Canada.

TI Biodistribution of ellagic acid and dose-related inhibition of lung tumorigenesis in A/J mice.

SO Nutr-Cancer. 1992. 18(2). P 181-9.

JT NUTRITION AND CANCER.

PT JOURNAL-ARTICLE (ART).

AB Ellagic acid (EA), derived from fruit ellagitannins, is known to be *antimutagenic* and anticarcinogenic in various animal tumor models. In this study, EA at a dose of 4 g/kg diet inhibited multiplicity of tumors induced by 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK) in A/J mice by 54%. This inhibition was dose related between 0.06 and 4.0 g/kg diet. In contrast, two related compounds, esculin and esculetin, had no effect on lung tumorigenesis. The biodistribution of EA was studied as a function of dose and time after gavage of EA. The levels of EA in the lung were directly proportional to the dose of EA between 0.2 and 2.0 mmol. The maximum level of EA, corresponding to 21.3 nmol/g, was observed 30 minutes after gavage with 2.0 mmol of EA/kg body wt, which corresponds to only 70 ppm of the administered dose. The levels in liver tissues were 10-fold lower and reached a maximum 30 minutes after gavage. At this interval, the blood level of EA was 1 nmol/ml. The inclusion of EA in cyclodextrin doubles the level of EA in lung tissues. These results demonstrate that EA localizes preferentially in lung tissues and confirm that EA administered orally can inhibit lung

tumorigenesis. Author-abstract.

111

AN 93065404. 93000.

AU Azuine-M-A. Goswami-U-C. Kayal-J-J. Bhide-S-V.

IN Carcinogenesis Division, Tata Memorial Centre, Parel, Bombay, India.

TI *Antimutagenic* and anticarcinogenic effects of carotenoids and dietary palm oil.

SO Nutr-Cancer. 1992. 17(3). P 287-95.

JT NUTRITION AND CANCER.

PT JOURNAL-ARTICLE (ART).

AB Four carotenoids, canthaxanthin, beta-carotene, 8H-apo-beta-carotenal, and 8'-apo-beta-carotene methylester were tested for their ability to suppress the mutagenicity of 1-methyl-3-nitro-1-nitrosoguanidine and benzo`a:pyrene (BP) in Salmonella typhimurium tester strain TA 100. The anticarcinogenic efficacy of the four carotenoids was further assessed in the BP-induced forestomach tumor model in female Swiss mice. The effect of dietary palm oil was also examined in BP-induced neoplasia in the female Haffkine Swiss mouse strain. Canthaxanthin, beta-carotene, 8'-apo-beta-carotenal, and 8'-apo-beta-carotene methylester showed a dose-dependent decrease in the mutagenicity compared with 1-methyl-3-nitro-1-nitrosoguanidine and BP in strain TA 100. In the BP-induced forestomach tumor model, all four carotenoids showed a similar significant anticarcinogenic effect. Dietary administration of palm oil showed a dose-dependent antitumor activity in the animals. Our results show that the intrinsic *antimutagenic* and anticarcinogenic properties of the carotenoids are not significantly influenced by their conversion to vitamin A. Author-abstract.

112

AN 93058455. 93000.

AU Dogasaki-C. Murakami-H. Nishijima-M. Yamamoto-K. Miyazaki-T.

IN Faculty of Environmental Health, Azabu University, Kanagawa, Japan.

TI *`Antimutagenic* activities of hexane extracts of the fruit extract and the kernels of Prunus mume Sieb. et Zucc.:

SO Yakugaku-Zasshi. 1992 Aug. 112(8). P 577-84.

JT YAKUGAKU ZASSHI. JOURNAL OF THE PHARMACEUTICAL SOCIETY OF JAPAN.

PT JOURNAL-ARTICLE (ART).

AB *Antimutagenic* activities of hexane extracts obtained from the fruit extract (UE) and the Kernels (KE) of P. mume were examined. These extracts showed inhibitory activities to known mutagens, 2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide, benzo`alpha:pyrene and aflatoxin B1 in the Ames assay using Salmonella typhimurium TA100 and TA98 strains. The UE and KE fractions were then separated by silicic acid column chromatography with a stepwise elution method using ether-hexane. The location of the active substances in the fractions was also determined by thin-layer chromatography. Consequently, it was found that the effective substances for the desmutagenicity were fatty acids, and identified by gas liquid chromatography, mainly as

oleic acid, linoleic acid and linolenic acid in UE, and mainly as oleic acid and linoleic acid in KE, respectively. Author-abstract.

113

AN 93052617. 93000.

AU Durga-R. Sridhar-P. Polasa-H.

IN Department of Microbiology, Osmania University, Hyderabad.

TI *Antimutagenic* activity of plumbagin in Ames Salmonella typhimurium test.

SO Indian-J-Med-Res. 1992 Apr. 96. P 143-5.

JT INDIAN JOURNAL OF MEDICAL RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB This paper reports the *antimutagenic* activity of plumbagin (5-hydroxy-2-methyl-1, 4-naphthoquinone) against certain known chemical mutagens in a standard mutagenicity test system of Ames using *S. typhimurium* strains. Plumbagin by itself did not show any mutagenic effect, whereas it reduced significantly the mutagenic effect of 4-nitrophenylene diamine, phenyl hydrazine and sodium azide in test strains of *S. typhimurium*, suggesting that plumbagin possessed *antimutagenic* activity. Author-abstract.

114

AN 93049238. 93000.

AU Chulasiri-M. Bunyapraphatsara-N. Moongkarndi-P.

IN Department of Microbiology, Faculty of Pharmacy, Mahidol University, Bangkok, Thailand.

TI Mutagenicity and antimutagenicity of hispidulin and hortensin, the flavonoids from *Millingtonia hortensis* L.

SO Environ-Mol-Mutagen. 1992. 20(4). P 307-12.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Studies of the mutagenicity and antimutagenicity of hispidulin and hortensin, the flavonoids from *Millingtonia hortensis* L. (Bignoniaceae), were performed using the liquid preincubation method of the Salmonella/microsome test. At the highest dose tested, 100 micrograms/plate, both compounds showed no mutagenicity and no cytotoxicity toward *S. typhimurium* strains TA98 and TA100 either in the presence or absence of S9 mix. However, these substances were *antimutagens* toward 2-aminoanthracene, aflatoxin B1 (in TA98), and dimethylnitrosamine (in TA100); but neither substance inhibited the direct mutagenic activity of 2-(2-furyl)-3-(5-nitro-2-furyl) acrylamide nor that of sodium azide in strains TA98 and TA100, respectively. Author-abstract.

115

AN 93049236. 93000.

AU Rannug-U. Agurell-E. Rannug-A. Cederberg-H.

IN Department of Genetics, Stockholm University, Sweden.

TI Certain tryptophan photoproducts are inhibitors of cytochrome P450-dependent mutagenicity.

SO Environ-Mol-Mutagen. 1992. 20(4). P 289-96.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Two photoproducts, derived from UV-irradiation of the amino acid L-tryptophan and with high Ah (TCDD) receptor binding affinity, were tested for genotoxic and *antimutagenic* effects. The two indolo`3,2-b:carbazole derivatives, with the molecular weights of 284 and 312, respectively, were tested in *Saccharomyces cerevisiae* strain D7 for mitotic gene conversion and reverse mutation and in strain RS112 for sister chromatid conversion and gene conversion. No significant ($P > 0.05$) genotoxic effects were found in strain D7, while strain RS112 showed a small but significant increase in the frequency of sister chromatid conversions. In Chinese hamster ovary (CHO) cells the two compounds induced a statistically significant but less than twofold increase in the frequency of sister chromatid exchanges (SCE). No mutations were detected when the compounds were tested in *Salmonella typhimurium* strains TA98 and TA100. However, both 284 and 312 acted as *antimutagens* on strain TA100 + S9 in the presence of benzo(a)pyrene. The decrease in mutagenicity by the most potent compound 284 was 20 revertants/nmol. This effect could be explained by an inhibitory effect on the cytochrome P450-dependent ethoxyresorufin O-deethylase (EROD) activity as seen in rat hepatocytes. The two compounds were also tested with hamster cells expressing rat cytochrome P-450IA1. The results support the conclusion that this cytochrome P-450 isozyme is inhibited by the tryptophan photoproducts. Similar results were also seen with two other high affinity Ah receptor ligands the quinazolinocarboline alkaloids rutaecarpine and dehydrorutaecarpine. Author-abstract.

116

AN 93046831. 93000.

AU Rao-C-V. Desai-D. Kaul-B. Amin-S. Reddy-B-S.

IN Division of Nutritional Carcinogenesis, American Health Foundation, Valhalla, New York.

TI Effect of caffeic acid esters on carcinogen-induced mutagenicity and human colon adenocarcinoma cell growth.

SO Chem-Biol-Interact. 1992 Nov 16. 84(3). P 277-90.

JT CHEMICO-BIOLOGICAL INTERACTIONS.

PT JOURNAL-ARTICLE (ART).

AB Propolis, a honey bee hive product, is thought to exhibit a broad spectrum of activities including antibiotic, antiviral, anti-inflammatory and tumor growth inhibition; some of the observed biological activities may be due to caffeic acid (cinnamic acid) esters that are present in propolis. In the present study we synthesized three caffeic acid esters, namely methyl caffeate (MC), phenylethyl caffeate (PEC) and phenylethyl dimethylcaffeate (PEDMC) and tested them against the 3,2'-dimethyl-4-aminobiphenyl, (DMAB, a colon and mammary carcinogen)-induced mutagenicity in *Salmonella typhimurium* strains TA 98 and TA 100. Also, the effect of these agents on the growth of human colon adenocarcinoma, HT-29 cells and

activities of ornithine decarboxylase (ODC) and protein tyrosine kinase (PTK) was studied. Mutagenicity was induced in *Salmonella typhimurium* strains TA 98 and TA 100 plus S9 activation using 5 and 10 micrograms DMAB and *antimutagenic* activities of 0-150 microM MC, 0-60 microM PEC and 0-80 microM PEDMC were determined. The results indicate that MC, PEC and PEDMC were not mutagenic in the *Salmonella* tester system. DMAB-induced mutagenicity was significantly inhibited with 150 microM MC, 40-60 microM PEC and 40-80 microM PEDMC in both tester systems. Treatment of HT-29 colon adenocarcinoma cells with > 150 microM MC, 30 microM PEC and 20 microM PEDMC significantly inhibited the cell growth and syntheses of RNA, DNA and protein. ODC and PTK activities were also inhibited in HT-29 cells treated with different concentrations of MC, PEC and PEDMC. These results demonstrate that caffeic acid esters which are present in Propolis possess chemopreventive properties when tested in short-term assay systems. Author-abstract.

117

AN 93038465. 93000.

AU Perchellet-J-P. Gali-H-U. Perchellet-E-M. Klish-D-S.
Armbrust-A-D.

IN Anti-Cancer Drug Laboratory, Kansas State University, Manhattan
66506-4901.

TI Antitumor-promoting activities of tannic acid, ellagic acid, and
several gallic acid derivatives in mouse skin.

SO Basic-Life-Sci. 1992. 59. P 783-801.

JT BASIC LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART).

AB Naturally occurring plant phenols with *antimutagenic* and anticarcinogenic activities were tested for their abilities to inhibit the biochemical and biological effects of the potent tumor promoter 12-O-tetradecanoyl-phorbol-13-acetate (TPA) in mouse epidermis in vivo. When applied topically to mouse skin, tannic acid (TA), ellagic acid, and several gallic acid derivatives all inhibit TPA-induced ornithine decarboxylase activity, hydroperoxide production, and DNA synthesis, three biochemical markers of skin tumor promotion. Moreover, in the two-step initiation-promotion protocol, the same phenolic compounds also inhibit the incidence and yield of skin tumors promoted by TPA. TA is the most effective of these treatments. Since they are already known to inhibit tumor initiation, the plant phenols protecting against skin tumor promotion by TPA may be universal inhibitors of multistage carcinogenesis. TA and other polyphenols, therefore, might be valuable in cancer therapy and/or prevention. Author-abstract.

118

AN 93029253. 93000.

AU Koveshnikova-I-V. Antipenko-E-N.

TI `The role of the thyroid hormones in regulating chromosomal
resistance to microwave exposure:.

SO Radiobiologia. 1992 Jul-Aug. 32(4). P 512-5.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB The mutagenic effect of microwaves (2450 MHz, 500 μ W/cm², 30 days, 7 h/day) on rats was shown to decrease under the influence of thyroxine (2.5 μ g/100 g) administered over a two-week period. The major role of thyroid hormones in the formation of the *antimutagenic* effect of nonionizing radiation (2450 MHz, 10 μ W/cm², 30 days, 7 h/day) was confirmed by the experiments with the parathyroid gland being removed. Author-abstract.

119

AN 93028901. 93000.

AU Gasquet-M. Quetin-Leclercq-J. Timon-David-P. Balansard-G. Angenot-L.

IN Faculte de Pharmacie, Universite d'Aix-Marseille, France.

TI Antiparasitic properties of diploceline, a quaternary alkaloid from *Strychnos gossweileri*.

SO Planta-Med. 1992 Jun. 58(3). P 276-7.

JT PLANTA MEDICA.

PT JOURNAL-ARTICLE (ART).

120

AN 93027549. 93000.

AU Katiyar-S-K. Agarwal-R. Wang-Z-Y. Bhatia-A-K. Mukhtar-H.

IN Department of Dermatology, University Hospitals of Cleveland, Case Western Reserve University, OH.

TI (-)-Epigallocatechin-3-gallate in *Camellia sinensis* leaves from Himalayan region of Sikkim: inhibitory effects against biochemical events and tumor initiation in Sencar mouse skin.

SO Nutr-Cancer. 1992. 18(1). P 73-83.

JT NUTRITION AND CANCER.

PT JOURNAL-ARTICLE (ART).

AB Recently, we and others showed that the components of green tea may be useful cancer chemopreventive agents. It has been suggested that (-)-epigallocatechin-3-gallate (EGCG), the major constituent in green tea, may possess antitumor-promoting and/or anticarcinogenic effects in rodent tumor bioassay systems. During the chemical analysis of various green tea products, we found a traditionally preserved preparation of green tea used by tribes in the Himalayan region of Sikkim, India that was rich in EGCG. EGCG was isolated from this tea product, and its inhibitory effects were evaluated against the binding of topically applied ³H-labeled polycyclic aromatic hydrocarbons (PAHs) to epidermal DNA and 12-O-tetradecanoylphorbol-13-acetate (TPA) caused induction of epidermal ornithine decarboxylase (ODC) activity in Sencar mice, the short-term markers of tumor initiation and tumor promotion, respectively. Preapplication of EGCG resulted in significant inhibition (p less than 0.05) in the binding of ³H:PAH to epidermal DNA. Similarly, the topical application of EGCG resulted in

significant inhibition (p less than 0.005) in TPA-caused induction of epidermal ODC activity. In further studies, we assessed the anti-skin tumor-initiating effect of EGCG in Sencar mice in an initiation-promotion protocol. The application of EGCG before challenge with 7,12-dimethylbenz^a:anthracene as tumor initiator resulted in significant reduction both in percentage of mice with tumors and number of tumors per mouse compared with a non-EGCG-pretreated group of animals. The results of the present study suggest that the green tea preparation from Sikkim may be a good source for the isolation of EGCG and that this compound may have significant potential as a cancer chemopreventive agent.

Author-abstract.

121

AN 93024595. 93000.

AU Kuo-M-L. Lee-K-C. Lin-J-K.

IN Institute of Toxicology, College of Medicine, National Taiwan University, Taipei.

TI Genotoxicities of nitropyrenes and their modulation by apigenin, tannic acid, ellagic acid and indole-3-carbinol in the Salmonella and CHO systems.

SO Mutat-Res. 1992 Nov 16. 270(2). P 87-95.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Four naturally occurring compounds, indole-3-carbinol (I3C), apigenin (Api), ellagic acid (EA) and tannic acid (TA), were tested for their inhibitory effects against 1-nitropyrene- (1-NP) or 1,6-dinitropyrene (1,6-DNP)-induced genotoxicity in Salmonella tester strains and Chinese hamster ovary (CHO) cells. Api and TA strongly inhibited the bacterial mutagenesis induced by nitropyrenes, while I3C and EA had little or no effect. For example, in TA98, 0.2 μ mole Api resulted in 48% and 56% inhibition of the mutagenicity induced by 4 nmole 1-NP and 0.035 nmole 1,6-DNP, respectively. With an equal dose, TA caused 46% and 50% reduction of the mutagenicity induced by 1-NP and 1,6-DNP, respectively. As expected, a good correlation was observed between the antimutagenicity of nitropyrenes and their inhibitory effect on nitroreductase activity. This indicated that one of the possible *antimutagenic* mechanisms of Api or TA was to inactivate the metabolism of nitropyrenes. Two biological end-points, cytotoxicity and sister-chromatid exchange (SCEs), were used to screen the antigenotoxic effects of these compounds in CHO cells. At the sub-cytotoxic dose, I3C, Api and TA all protected against the cytotoxicity induced by 1-NP and 1,6-DNP, but only TA and Api gave a significant reduction of the frequency of SCEs. Moreover, this reduction was found to be highly dose-dependent. Author-abstract.

122

AN 93024575. 93000.

AU Knasmuller-S. Kim-T-W. Ma-T-H.

IN Institute of Tumor Biology and Cancer Research, University of Vienna,

Austria.

TI Synergistic effect between tannic acid and X-rays detected by the Tradescantia-micronucleus assay.

SO Mutat-Res. 1992 Nov 1. 270(1). P 31-7.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Tannic acid (TA), a complex mixture of polyphenolics, exhibited synergism with 4-nitroquinoline 1-oxide (4-NQO), methyl methanesulfonate (MMS) and cis-platinum (cis-DDP) in a recent study on w/w+ somatic mutation in the eye pigment of *Drosophila*, although several studies indicated that tannic acid is an *antimutagen* in cultured mammalian cells. The goal of this study was to determine the genotoxicity of tannic acid alone and its possible synergistic effect with X-rays using the Tradescantia-micronucleus (Trad-MCN) bioassay. Plant cuttings were irradiated with 35 R of X-rays (80 kV, 5 mA) and followed by a series of increasing dosages (0.1, 0.5, 0.75, 1.0, 1.25, 1.50 mM) of TA treatment (24 h) and in some cases TA treatment was followed by X-irradiation. Inflorescences were fixed after a 24-h recovery period and slides were prepared for scoring MCN frequencies. Four series of experiments were conducted and the results of Trad-MCN tests on X-rays alone yielded an average of 47.5 MCN/100 tetrads (SE = 6.08), and 1.0 mM TA alone yielded an average of 8.95 MCN/100 tetrads (SE = 0.1), while the combined treatments (35 R X-rays plus 1.0 mM TA) yielded an average of 126.95 MCN/100 tetrads (SE = 13.69). The MCN frequency of the negative control was around 4.6 MCN/100 tetrads (SE = 0.75). This kind of synergism was exhibited through all the increasing dosages around 1.0 mM or higher. The synergistic effect of these two agents remained at the same level when TA was followed by X-irradiation. When a 12-h repairing period was allowed after X-irradiation in the combined treatment, the MCN frequency was similar to that of the X-ray treatment alone. The synergistic effect in the cases where the TA exposure was given immediately after X-irradiation could be attributed to the inhibitory action of TA on the DNA repair process. Author-abstract.

123

AN 93024570. 93000.

AU Balansky-R.

IN National Centre of Oncology, Sofia, Bulgaria.

TI Effects of sodium selenite and caffeine on mutagenesis induced by N-methyl-N-nitrosourea, N-methyl-N'-nitro-N-nitrosoguanidine and aflatoxin B1 in *S. typhimurium*.

SO Mutat-Res. 1992 Oct. 269(2). P 307-17.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Pre-treatment, co-treatment, and post-treatment procedures were comparatively used in order to assess the modulation of mutagenicity in *S. typhimurium* his- strains. Pre-treatment of bacteria with sodium selenite had no effect on sodium azide mutagenicity. Irrespective of the procedure used neither selenite nor caffeine had

any influence on the S9-mediated mutagenicity of aflatoxin B1. In contrast, the mutagenicity of N-methyl-N-nitrosourea (MNU) and N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) was variably affected, depending on the sequence of exposures of target bacterial cells to mutagens and modulators. In particular, pre-treatment of bacteria with either selenite or caffeine or their combination generally resulted in a potentiation of MNU and MNNG mutagenicity. However, co-incubation of these alkylating agents and test modulators with bacterial cells yielded an evident inhibition of mutagenicity, the methylxanthine being more effective in this case. Caffeine exhibited an *antimutagenic* effect towards MNU also when assayed in a post-treatment procedure. Thus, in dependence on the test conditions, selenite and caffeine could act in the same mutagenicity assay as co-mutagens, *antimutagens* or agents without effect on mutagenesis. These opposite trends reflect the complexity of the mechanisms of action of both mutagens and modulators tested, and underscore the variable outcome of their interactions, also depending on topological and chronological factors. The data reported emphasize the need for a multiple methodological approach in studies investigating the modulation of mutagenicity. Author-abstract.

124

AN 93024567. 93000.
 AU Ho-T-A. Coutts-T-M. Rowland-I-R. Alldrick-A-J.
 IN BIBRA, Carshalton, Surrey, UK.
 TI Inhibition of the metabolism of mutagens occurring in food by arachidonic acid.
 SO Mutat-Res. 1992 Oct. 269(2). P 279-84.
 JT MUTATION RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 AB Hepatic microsomal fractions (microsomes) were prepared from male Sprague-Dawley rats. The effect of arachidonic acid on the conversion of the heterocyclic aromatic amine 2-amino-3-methylimidazo`4,5-f:quinoline (IQ) to its genotoxic metabolites was investigated using a modified bacterial mutation assay (indicator: Salmonella typhimurium TA98). Arachidonic acid inhibited the mutagenicity of IQ without effect on the uptake of the active metabolites and/or on the DNA-repair processes within the bacterial cell. The activation of 2-amino-3,8-dimethylimidazo`4,5-f:quinoxaline (MeIQx), 2-amino-1-methyl-6-phenylimidazo`4,5-b:pyridine (PhIP) and aflatoxin B1 (AFB1) was also inhibited by this polyunsaturated fatty acid. Author-abstract.

125

AN 93024564. 93000.
 AU Benova-D-K.
 IN National Centre of Radiobiology and Radiation Hygiene, Sofia, Bulgaria.
 TI Anticlastogenic effects of a polyvitamin product, 'Pharmavit', on

gamma-ray induction of somatic and germ cell chromosome aberrations in the mouse.

SO Mutat-Res. 1992 Oct. 269(2). P 251-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The polyvitamin product 'Pharmavit' (Pv), comprising vitamins A, D2, B1, B2, B6, C, E, nicotinamide, and calcium pantothenate, was tested for anticlastogenic properties against gamma-rays in mice. Pretreatment with Pv consisted of daily administration by gavage for 30 days at dose levels corresponding to clinical recommendations for an adult human, as recalculated in terms of mg/kg. Findings indicated a reduction of chromosome aberrations in bone marrow cells from mice exposed to 3.0 Gy ¹³⁷Cs gamma-rays; the reduction concerned predominantly fragments of the chromatid type. Furthermore, a reduction factor of 1.6 was obtained for the frequency of reciprocal translocations induced by spermatogonial irradiation in mice exposed to 4.0 Gy gamma-rays. Pretreatment with vitamin C alone, at the dose present in Pv, proved nearly ineffective in protecting from chromosome aberrations in bone marrow cells. Pharmavit is believed to be a promising agent for application to human populations exposed to the carcinogenic and genetic hazards of ionizing radiation. Author-abstract.

126

AN 93024558. 93000.

AU Peryt-B. Szymczyk-T. Lesca-P.

IN Department of Biochemistry, Medical Academy, Warsaw, Poland.

TI Mechanism of antimutagenicity of wheat sprout extracts.

SO Mutat-Res. 1992 Oct. 269(2). P 201-15.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB In this paper we have demonstrated that wheat sprout extract, which has been shown to be *antimutagenic* towards benzo`a:pyrene (BP), reduced formation of BP metabolites by hepatic microsomes of either benzo`a:pyrene- or phenobarbital-treated rats as analyzed in high-pressure liquid chromatography (HPLC). Comparing the time dependence of profiles and values of BP metabolites, formed in experiments in which the same dose of wheat sprout extract was added to the incubation medium, it has been observed that the later this extract was added the higher the percent of BP that was metabolized. In a bacterial test (cytochrome P450 induction assay) high inhibition of mutagenic activity of cyclophosphamide and ethidium bromide, in the presence of wheat sprout extract, reflected decreased levels of cytochromes P4502B1 and P4501A1 respectively. Decreased levels of both cytochromes P4501A1 and P4502B1 were also observed in either wheat sprout extract- or wheat sprout extract plus benzo`a:pyrene-treated rats. In all of these studies it has been observed that wheat sprout extract displays much more affinity for cytochrome P4501A1 than for the P4502B1 form. On the other hand the wheat sprout extract had higher affinity for carcinogen binding

protein (4S protein) than for the aryl hydrocarbon receptor. The strong inhibition of BP mutagenicity and BP metabolism with non-chlorophyllic wheat sprout extract suggests that chlorophyll is not the main compound responsible for the *antimutagenic* activity of wheat sprout extract. The similar chromatographic behavior of both the main inhibitory fraction, obtained from wheat sprout extract, and two pure glycosides of apigenin--shaftoside, purified from wheat sprout extract and synthetic swertisine--suggests that *antimutagenic* compound(s) contained in the wheat sprout extract belong(s) to this family of flavonoids. Author-abstract.

127

AN 93024557. 93000.

AU Minnunni-M. Wolleb-U. Mueller-O. Pfeifer-A. Aeschbacher-H-U.

IN Nestec Ltd, Nestle Research Centre, Vers-chez-les-Blanc, Lausanne, Switzerland.

TI Natural antioxidants as inhibitors of oxygen species induced mutagenicity.

SO Mutat-Res. 1992 Oct. 269(2). P 193-200.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB A ternary antioxidant vitamin mix consisting of ascorbic acid, alpha-tocopherol and lecithin as well as a rosemary extract with carnosic acid and carnosol as the two major active ingredients were shown to exhibit strong *antimutagenic* effects in Ames tester strain TA102. This strain has been shown to be highly sensitive to reactive oxygen species. Mutagenicity was induced by the generation of oxygen radicals by tert-butyl-hydroperoxide (tBOOH) or hydrogen peroxide (H2O2); therefore, the *antimutagenic* property of the above substances was attributed to their antioxidant properties. In the case of the vitamin mix, ascorbic acid was held responsible for this inhibitory property, whereas for the rosemary extract carnosic acid was identified as the *antimutagenic* agent. Since oxygen radicals are known to be involved in the multiprocess of carcinogenicity, it is concluded that these antioxidants might exhibit anticarcinogenic properties. Author-abstract.

128

AN 93013329. 93000.

AU Skog-K. Jagerstad-M. Reutersward-A-L.

IN Department of Applied Nutrition and Food Chemistry, University of Lund, Sweden.

TI Inhibitory effect of carbohydrates on the formation of mutagens in fried beef patties.

SO Food-Chem-Toxicol. 1992 Aug. 30(8). P 681-8.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Beef patties were prepared by mixing minced meat with water and either glucose (1, 2 or 4%), lactose (1, 2 or 4%) or powdered milk (2, 4 or 8%) before frying. In another experiment, minced meat was

mixed with starch from golden bread crumbs (3%) or potatoes (4%), with and without glucose (1, 2 or 4%). The patties (100 g) were fried for 3 min at 150 or 180 degrees C in a double-sided fryer. The mutagenic activity in the crust was determined using the Ames test. With the addition of glucose or lactose (1-4%), the mutagenic activity was inhibited by 34-76%. A similar inhibition of the mutagenic activity was obtained with powdered milk. However, starch from golden bread crumbs or potatoes caused only a slight (not significant) decrease in mutagenic activity whereas adding both starch and glucose to the beef patties inhibited mutagenic activity by up to 54%. Author-abstract.

129

AN 93011028. 93000.

AU Salvadori-D-M. Ribeiro-L-R. Oliveira-M-D. Pereira-C-A. Becak-W.

IN Laboratorio de Toxicologia & Genetica Toxicologica, Universidade Federal da Bahia, Salvador, Brasil.

TI Beta-carotene as a modulator of chromosomal aberrations induced in mouse bone marrow cells.

SO Environ-Mol-Mutagen. 1992. 20(3). P 206-10.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The inhibitory effects of beta-carotene on cyclophosphamide (CPA)-induced chromosomal aberrations in mouse bone marrow cells were investigated. Male Balb C mice, 8-10 weeks old, were treated with beta-carotene (0.5, 1.0, 2.0, 5.0, 10, 25, 50, 100, and 200 mg/kg) or with corn oil (0.05 ml/10 g b.w.) by gavage for 5 consecutive days. Four hours after the last treatment with or without beta-carotene, the animals were intraperitoneally injected with CPA and killed 24 hr later for cytological preparations and analysis. The results obtained show that beta-carotene provides significant protection against the clastogenicity of CPA. The maximum reduction in the frequency of aberrant metaphases (26.9%) and in total number of chromosomal aberrations were observed when beta-carotene was used at 50 mg/kg. Nevertheless, no direct dose-response relationship was detected, suggesting that beta-carotene might act through different mechanisms at different doses. The results obtained in animals studies have served as part of the basis for the human intervention studies now underway to determine if beta-carotene does indeed function as a chemopreventive agent in human nutrition. Author-abstract.

130

AN 93011027. 93000.

AU Dashwood-R. Liew-C.

IN Department of Environmental Biochemistry, University of Hawaii, Honolulu 96822.

TI Chlorophyllin-enhanced excretion of urinary and fecal mutagens in rats given 2-amino-3-methylimidazo`4,5-f:quinoline.

SO Environ-Mol-Mutagen. 1992. 20(3). P 199-205.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Sodium/copper chlorophyllin (CHL) is a water-soluble derivative of chlorophyll that exhibits *antimutagenic* activity in several short-term genotoxicity assays and inhibits carcinogen-DNA binding in vivo. The effect of CHL pretreatment on the excretion of mutagens in the urine and feces of male Sprague-Dawley rats has been studied using the Salmonella mutagenicity assay. Animals were given 1 percent CHL in the drinking water for 2 days before administering a single dose of 2-amino-3-methylimidazo-`4,5-f:quinoline (IQ) by oral gavage. Rats pretreated with CHL had higher levels of mutagens in the urine and feces compared with animals given IQ alone; 48 hr after IQ administration, the total mutagenic dose excreted was < 4% in controls vs. 18% in rats given CHL. Mutagenicity required the presence of an activation system, was unaffected by treatment with beta-glucuronidase or arylsulfatase, and in both the urine and feces was accounted for by increased elimination of unmetabolized parent compound. The results support the view that CHL may operate in vivo as a "desmutagen" or interceptor molecule, interacting with IQ in the gut and tissues, and reducing carcinogen bioavailability.
Author-abstract.

131

AN 93008750. 93000.

AU Knasmuller-S. Huber-W-W. Kienzl-H. Schulte-Hermann-R.

IN Institut fur Tumorbiologie und Krebsforschung, Universitat Wien, Austria.

TI Inhibition of repairable DNA-damage in Escherichia coli K-12 cells recovered from various organs of nitrosamine-treated mice by vitamin A, phenethylisothiocyanate, oleic acid and triolein.

SO Carcinogenesis. 1992 Sep. 13(9). P 1643-50.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The influence of various dietary constituents--phenethylisothiocyanate (PEITC), oleic acid (OA), triolein (TO), and vitamin A (ROL)--on the genotoxic activity of nitrosamines (NDMA, NDELA, NPYR) was investigated. For this purpose differential DNA repair assays with Escherichia coli K-12 strains were performed in vitro and in vivo with mice. Under in vitro conditions (liquid holding), all compounds reduced nitrosamine induced DNA-damage in the indicator bacteria in the dose range 1-10 micrograms/ml, the ranking order of efficiency being PEITC greater than OA greater than ROL greater than or equal to TO. In animal-mediated assays, acute oral treatment with PEITC (17-150 mg/kg), 2 h before nitrosamine administration, resulted in a marked decrease of nitrosamine genotoxicity in liver, kidneys, lungs and in the blood. Also in other organs (spleen, testes) an increase in differential survival (which serves as a measure for repairable DNA damage) occurred. With ROL only a comparatively moderate antigenotoxic effect was obtained at a high dose level (250 mg/kg)

under identical experimental conditions. OA (2000 mg/kg) and TO (16,000 mg/kg) were completely inactive. Upon repeated treatment (consecutive oral administration of the putative antigenotoxins over 4 days, a final treatment 24 h before nitrosamine administration) PEITC (150 mg/kg/day), ROL (80 mg/kg/day) and OA (2000 mg/kg/day) had no influence on the genotoxic effects of the nitrosamines. Repeated treatment with TO (4000-16,000 mg/kg/day) resulted in a moderate dose-dependent reduction of NDMA-induced DNA-damage in the indicator bacteria, whereas in combination with NPYR only a marginal effect was observed. Biochemical experiments indicated that the antigenotoxic effects of PEITC seen under in vivo conditions were due to inhibition of alpha-hydroxylation of the nitrosamines, whereas ROL and TO appeared not to interfere strongly with this metabolic activation step. Our results indicate that in vitro assays do only partly reflect the antigenotoxic properties of the different food constituents in vivo and that animal-mediated DNA repair assays with E. coli strains are an appropriate approach to study the effects of modifiers of nitrosamine genotoxicity in the living animal.

Author-abstract.

132

AN 93007842. 93000.

AU Teel-R-W. Castonguay-A.

IN Department of Physiology and Pharmacology, School of Medicine, Loma Linda University, CA 92350.

TI *Antimutagenic* effects of polyphenolic compounds.

SO Cancer-Lett. 1992 Sep 30. 66(2). P 107-13.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Smokers expose themselves to potent carcinogens daily. One of them is the nicotine-derived nitrosamine 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK). Since estimates are that humans consume 1 g of phenolic compounds/day, we investigated the inhibitory effects of five structurally related polyphenolic compounds on the mutagenicity of NNK in Salmonella typhimurium TA1535. NNK at a concentration of 80 mM was activated by hamster liver microsomes. The *antimutagenic* efficacies were dose-related between the non-toxic concentrations of 0.1 and 0.5 mmol/dish in the following order: esculetin > ellagic acid > (+)-catechin > propyl gallate > (-)-esculin. At the highest non-toxic dose tested (0.5 mmol/dish), these polyphenolics inhibited mutagenesis in TA1535 by 77%, 67%, 62%, 59% and 53%, respectively. The results of this study demonstrated that polyphenolic compounds may inhibit the activation of NNK. Author-abstract.

133

AN 92405318. 92000.

AU Choshi-T. Horimoto-S. Wang-C-Y. Nagase-H. Ichikawa-M. Sugino-E. Hibino-S.

IN Department of Pharmacy, Hiroshima General Hospital, Japan.

TI Synthesis of dibenzoylmethane derivatives and inhibition of mutagenicity in *Salmonella typhimurium*.
SO Chem-Pharm-Bull (Tokyo). 1992 Apr. 40(4). P 1047-9.
JT CHEMICAL AND PHARMACEUTICAL BULLETIN.
PT JOURNAL-ARTICLE (ART).
AB Twenty dibenzoylmethanes with methyl, methoxy, bromo, chloro, or fluoro substitution on either one or both benzene rings were synthesized and assayed for inhibition of the mutagenicity of 2-nitrofluorene in *S. typhimurium* TA98. 2,2-Dimethoxy, 3,3-dimethoxy and 3,3,4,4-tetramethoxydibenzoylmethane was as active as dibenzoylmethane. None of the halogen-substituted dibenzoylmethanes were active. These results demonstrate that dibenzoylmethanes can inhibit the mutagenicity of 2-nitrofluorene, and that modifications made on the benzene rings of dibenzoylmethane cannot enhance the antimutagenicity of this parent compound. Author-abstract.

134

AN 92395683. 92000.
AU Marks-H-S. Anderson-J-L. Stoewsand-G-S.
IN Department of Food Science and Technology, New York State Agricultural Experiment Station, Cornell University, Geneva.
TI Inhibition of benzo`a:pyrene-induced bone marrow micronuclei formation by diallyl thioethers in mice.
SO J-Toxicol-Environ-Health. 1992 Sep. 37(1). P 1-9.
JT JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH.
PT JOURNAL-ARTICLE (ART).
AB Diallyl thioethers (DATES), naturally occurring compounds present in garlic, were investigated for their putative ability to inhibit benzo`a:pyrene-induced genotoxicity in ICR and C3H strains of mice. The mouse bone marrow micronucleus assay was used as an indicator of in vivo genotoxicity. A dose of 0.67 mmol total DATES/kg body weight inhibited formation of micronucleated polychromatic erythrocytes (MPCEs) by 24%, and 0.33 mmol DATES inhibited formation of MPCEs by 45%. Possibly the toxicity of DATES accounted for less inhibition with the higher dose. Formation of MPCEs were inhibited only slightly by DATES in C3H mice. These results indicate that the mouse bone marrow micronucleus assay can be used to identify organosulfur components of garlic that inhibit genotoxicity. Author-abstract.

135

AN 92389933. 92000.
AU Sai-K. Hayashi-M. Takagi-A. Hasegawa-R. Sofuni-T. Kurokawa-Y.
IN Divisions of Toxicology, National Institute of Hygienic Sciences, Tokyo, Japan.
TI Effects of antioxidants on induction of micronuclei in rat peripheral blood reticulocytes by potassium bromate.
SO Mutat-Res. 1992 Sep. 269(1). P 113-8.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Micronucleus induction in male F344 rat peripheral blood by potassium

bromate (KBrO₃), a rat renal carcinogen, and its inhibition by several antioxidants were studied using the acridine orange supravital staining method. The frequency of micronucleated reticulocytes (MNRETs) peaked 32 h after a single i.p. treatment of rats with KBrO₃ at a dose of 60 mg/kg. Co-treatment with glutathione (GSH) or cysteine (Cys) i.p. at doses of 800 mg/kg and 400 mg/kg, respectively, 30 min before and 30 min after the KBrO₃ treatment significantly inhibited the micronucleus induction by KBrO₃. Daily i.g. administration of vitamin C for 5 days at a dose of 200 mg/kg/day was also effective in protecting against micronucleus induction by KBrO₃ given on the 4th day. However, co-treatment with superoxide dismutase in liposome-encapsulated form by i.p. injection at a dose of 18,000 U/kg 30 min before and 30 min after the KBrO₃ application exerted no effect. The results indicate that antioxidants, especially sulfhydryl compounds, have protective potential against the clastogenicity of KBrO₃, also suggesting that active oxygen species may play an important role in its clastogenicity. Author-abstract.

136

AN 92382603. 92000.
AU Neudecker-T.
IN Institute of Toxicology, University of Wurzburg, Germany.
TI The genetic toxicology of cinnamaldehyde.
SO Mutat-Res. 1992 Sep. 277(3). P 173-85.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 57 Refs.

137

AN 92376739. 92000.
AU Ghaskadbi-S. Rajmachikar-S. Agate-C. Kapadi-A-H. Vaidya-V-G.
IN Department of Zoology, M.A.C.S. Research Institute, Pune, India.
TI Modulation of cyclophosphamide mutagenicity by vitamin C in the in vivo rodent micronucleus assay.
SO Teratogenesis-Carcinog-Mutagen. 1992. 12(1). P 11-7.
JT TERATOGENESIS, CARCINOGENESIS, AND MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).
AB The modulatory effect of vitamin C (Vit C) on the mutagenic effect of the antineoplastic drug cyclophosphamide (CP) was assessed in the in vivo micronucleus test in Swiss mice. Simultaneous oral administration of Vit C with i.p. administration of CP was found to decrease the frequency of micronucleated polychromatic erythrocytes elevated by CP. Vit C exhibited a significant *antimutagenic* effect over a wide dose range (1.56-200 mg/kg). The dose-response relationship was highly significant. These results demonstrated the ability of the in vivo micronucleus test to detect in vivo modulation of CP mutagenicity by Vit C. Our earlier results and those from other laboratories also indicate that this model system is suitable for primary in vivo screening of modulation of mutagenesis.

Author-abstract.

138

AN 92368398. 92000.

AU Edenharder-R. Pfeiffer-E-H.

IN Hygiene-Institut, Universitat Mainz.

TI `Detection of an inhibition of benzo(a)pyrene and sodium azide induced mutagenesis by extracts from human feces:.

SO Zentralbl-Hyg-Umweltmed. 1992 Jun. 193(1). P 53-66.

JT ZENTRALBLATT FUR HYGIENE UND UMWELTMEDIZIN.

PT JOURNAL-ARTICLE (ART).

AB Low levels of mutagenic activities were detected in only 5-25% of the feces of people on a normal mixed-western diet, when feces were extracted by solvents and extracts were analyzed for mutagenicity with Ames' standard Salmonella/microsome assay. Since mutagens are known to be present in this type of diet and may be synthesized endogenously by bacteria in the large bowel, the question is if *antimutagenic* compounds mask the presence of genotoxic substances. We therefore tested the inhibition of known mutagens--benzo(a)-pyrene and sodium azide--by acetone/ethyl-acetate extracts of lyophilized feces in model experiments. These extracts completely suppressed the mutagenicity of benzo(a)pyrene and reduced the mutagenicity of sodium azide by about 60%, but were non-cytotoxic. Using gel filtration over Sephadex LH-20 and subsequent silica gel column chromatography we found that the inhibitors were polar organic compounds with molecular weights about 500 or more. The inhibitory effect could not be changed by esterification or saponification methods but was completely abolished by alkaline potassium permanganate oxidation. We therefore conclude that the *antimutagenic* activities might be identical with bile pigments. Author-abstract.

139

AN 92363329. 92000.

AU Stavric-B.

IN Food Research Division, Health and Welfare Canada, Ottawa, Ontario.

TI An update on research with coffee/caffeine (1989-1990).

SO Food-Chem-Toxicol. 1992 Jun. 30(6). P 533-55.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB The interest in research with coffee has been increasing in recent years, and this has resulted in a surge of publications dealing with a variety of pharmaco-physiological effects of coffee/caffeine. This review attempts to update the information on the research with coffee/caffeine, including epidemiological studies, laboratory investigations and tests with volunteers, published in 1989 and 1990. It groups published articles according to observed or investigated biological effects. The most significant findings and differences between studies are pointed out with brief commentaries on the results. The overall assessment for the safety of drinking coffee and the effect of coffee on human health, based on the literature

published in 1989 and 1990, indicates that certain controversial issues are still unresolved. Author-abstract. 155 Refs.

140

AN 92363327. 92000.

AU Han-C. Wu-G. Yin-Y. Shen-M.

IN Department of Hygiene, Yanbian Medical College, Yanji City, Jilin Province, China.

TI Inhibition by germanium oxide of the mutagenicity of cadmium chloride in various genotoxicity assays.

SO Food-Chem-Toxicol. 1992 Jun. 30(6). P 521-4.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The effects of germanium oxide on the genotoxicity of cadmium chloride were investigated. The incorporation of ³H:thymidine into testicular DNA was inhibited in mice injected ip with 1.35, 1.80 or 2.70 mg cadmium chloride/kg body weight. Germanium oxide (0.05 or 0.1 mg/kg body weight, sc) alone did not affect ³H:thymidine incorporation into testicular DNA but 0.05 mg germanium oxide/kg antagonized the inhibitory effect of 1.35 mg cadmium chloride/kg. However, combinations of the other doses of the two compounds did not show statistically significant antagonistic effects. Cadmium chloride significantly increased the frequencies of micronucleus formation in polychromatic erythrocytes, and of chromosome aberrations in the bone marrow of mice treated with 0.7, 1.4 or 2.7 mg/kg body weight, in a dose-related manner. These effects were inhibited by germanium oxide at doses of 0.1 or 0.5 mg/kg body weight, although germanium oxide alone did not affect micronucleus formation or the chromosome aberration rate. Cadmium chloride produced a dose-related increase in the frequency of sister chromatid exchanges in cultured human lymphocytes at concentrations of 5, 10 or 50 μmol. This effect was also inhibited by germanium oxide (0.05 or 0.1 μmol), although germanium oxide alone had no effect. There was a dose-related increase in the frequency of sperms with abnormal head morphologies from mice treated with 0.6, 1.1 or 2.2 mg cadmium chloride/kg body weight and this too was antagonized by the injection of germanium oxide (0.1 or 0.5 mg/kg body weight). Germanium oxide alone did not affect the frequency of sperm-head abnormalities. Author-abstract.

141

AN 92336288. 92000.

AU Kozumbo-W-J. Agarwal-S. Koren-H-S.

IN Center for Environmental Medicine and Lung Biology, University of North Carolina, Chapel Hill 27599.

TI Breakage and binding of DNA by reaction products of hypochlorous acid with aniline, 1-naphthylamine, or 1-naphthol.

SO Toxicol-Appl-Pharmacol. 1992 Jul. 115(1). P 107-15.

JT TOXICOLOGY AND APPLIED PHARMACOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Hypochlorous acid (HOCl) is a chemically reactive oxidant and a potent microbicidal agent that is synthesized in phagosomes of inflammatory neutrophils and released into extracellular spaces. Besides reducing pathogenicity by reacting with phagocytized infectious agents, HOCl may damage tissues and yield toxic products upon reaction with various other molecules, including xenobiotics. As model xenobiotics, the substituted aryl compounds aniline, 1-naphthylamine, and 1-naphthol (1-NOH) were investigated herein for their potential to react with HOCl and the transformed into genotoxic products. The compounds were first exposed to HOCl (25-150 microm) in phosphate buffer and afterward used to treat human fibroblasts or purified DNA. DNA single-strand breaks in cells and the binding of HOCl-reacted 1-¹⁴C:NOH to purified DNA were assessed by DNA alkaline elution and scintillation spectrometry, respectively. It was found that neither HOCl nor compounds alone could break cellular DNA. But HOCl-reacted compounds produced up to 400 rad equivalents of DNA breaks. HOCl reaction products of aniline and the model bicyclic aryl compounds differed in their DNA-breaking characteristics. HOCl-reacted 1-¹⁴C:NOH was stable and bound to DNA at up to 124 pmol/mg DNA. Sodium thiosulfate, glutathione, and taurine inhibited the transformation reactions; but only the former two blocked binding of HOCl-reacted 1-NOH to DNA. Ultraviolet spectra showed that HOCl reacted rapidly (less than 1 min) and equally well with 1-NOH at pH 7.2 or at an intraphagosomal pH of 5.0. Reaction concentrations of HOCl in this study were 2- to 11-fold lower than levels generated in vitro by stimulated neutrophils. These results show that certain aryl compounds can react readily with approximated physiological levels of HOCl (-OCl) to form relatively long-lived products that bind DNA and are genotoxic to human cells. Author-abstract.

142

AN 92334384. 92000.

AU Chorvatovicova-D. Navarova-J.

IN Institute of Ecobiology, Slovak Academy of Sciences, Bratislava.

TI Suppressing effects of glucan on micronuclei induced by cyclophosphamide in mice.

SO Mutat-Res. 1992 Jul. 282(3). P 147-50.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effect of pretreatment with carboxymethylglucan (CMG) on the frequency of micronuclei induced by cyclophosphamide administration in mice was evaluated. Two doses of CMG (50 mg/kg body weight) injected either intraperitoneally 24 h or intravenously 1 h prior to two cyclophosphamide administrations (80 mg/kg) significantly decreased the frequency of micronucleated PCE in bone marrow. Of two evaluated derivatives of carboxymethylglucan, the K3 derivative was most efficient. The results show that it is possible to achieve a suppressive effect of soluble carboxymethylglucan prepared from *Saccharomyces cerevisiae* against cyclophosphamide mutagenicity. The notion may be useful for glucan's effects against

pharmacocarcinogenesis. Therapeutic application of glucan with cyclophosphamide therapy may provide a remarkable decrease of the secondary tumour risk. The utilization of these results for human patients needs to be considered. Author-abstract.

143

AN 92334369. 92000.

AU Smith-K-C.

IN Department of Radiation Oncology, Stanford University School of Medicine, CA 94305-5105.

TI Spontaneous mutagenesis: experimental, genetic and other factors.

SO Mutat-Res. 1992 Aug. 277(2). P 139-62.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB Spontaneous mutations are "the net result of all that can go wrong with DNA during the life cycle of an organism" (Glickman et al., 1986). Thus, the types and amounts of spontaneous mutations produced are the resultant of all the cellular processes that are mutagenic and those that are *antimutagenic.* It is not widely appreciated that the types and frequencies of spontaneous mutations change markedly with subtle changes in experimental conditions. All types of mutations are produced spontaneously, i.e., base substitutions, frameshifts, insertions and deletions. However, very few papers have appeared that are devoted exclusively to the study of the mechanisms of spontaneous mutagenesis, and of the subtle experimental factors that affect the types and frequencies of spontaneous mutations. This is unfortunate because spontaneous mutagenesis appears to play a major role in evolution, aging, and carcinogenesis. This review emphasizes subtle experimental variables that markedly affect the results of a spontaneous mutation experiment. A thorough understanding of these variables eliminates the need for a theory of "directed" mutagenesis. The intrinsic instability of DNA, and the types of normal metabolic lesions that are produced in DNA that lead to mutations via errors made in replication, repair, and recombination are reviewed, as is the genetic control of spontaneous mutagenesis. As with spontaneous mutagenesis, spontaneous carcinogenesis can also be considered to be the net result of all that can go wrong with DNA during the life of an organism. Author-abstract. 167 Refs.

144

AN 92321672. 92000.

AU Nelson-R-L.

IN Department of Surgery, University of Illinois, Chicago 60612.

TI Chlorophyllin, an *antimutagen,* acts as a tumor promoter in the rat-dimethylhydrazine colon carcinogenesis model.

SO Anticancer-Res. 1992 May-Jun. 12(3). P 737-9.

JT ANTICANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin (CHL), the water soluble sodium/copper salt of

chlorophyll, was investigated for its effect on colorectal cancer risk in the rat-dimethyldrazine colon carcinogenesis model. Ninety weanling Fisher 344 male rats were treated with five weekly injections of 1,2 dimethylhydrazine (DMH), 20 mg base/kg body weight. Rats had been previously divided into three groups, consuming either rat chow and water (Group I), rat chow and CHL 1.5 mM in water throughout the experiment (Group II), or water and rat chow during DMH injection, adding CHL 1.5 mM to the drinking water after completion of the DMH treatments. At sacrifice, the incidence and yield of colorectal tumors were as follows: Group I 10% and 0.1; Group II, 23% and 0.27; and Group III, 47% and 0.53 (p less than 0.005 for incidence and = 0.003 for yield). These data demonstrate that, though it is well established that CHL is an *antimutagen,* CHL in this colorectal carcinogenesis model acted as a tumor promoter. Author-abstract.

145

AN 92318982. 92000.

AU Winston-G-W. Traynor-C-A. Shane-B-S. Hajos-A-K.

IN Department of Biochemistry, Louisiana State University, Baton Rouge 70803.

TI Modulation of the mutagenicity of three dinitropyrene isomers in vitro by rat-liver S9, cytosolic, and microsomal fractions following chronic ethanol ingestion.

SO Mutat-Res. 1992 Jun 16. 279(4). P 289-98.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effects of chronic ethanol feeding of rats on the ability of liver fractions to modulate the bacterial mutagenicity of three dinitropyrene isomers (1,3-, 1,6- and 1,8-DNP), which require bacterial enzymes but not an exogenous enzyme source for activation, were studied. The mutagenicity of the DNP isomers toward *S. typhimurium* TA98 and TA100 was attenuated in the presence of post-mitochondrial supernatants (S9) from both ethanol-fed and pair-fed rats albeit, that from the ethanol-fed group was more efficient in lowering the mutagenicity. The cytosolic fraction from ethanol-fed rats enhanced the mutagenicity of all of the DNP isomers in TA100. The most notable enhancement was with 1,3-DNP in which a more than 4-fold enhancement was obtained. Cytosol from pair-fed rats enhanced only the mutagenicity of 1,3-DNP, this by 2.9-fold. Cytosolic NADPH-nitroreductase activity from ethanol-treated rats toward 1,6-, 1,8- and 1,3-DNP was increased 2.8-, 1.7- and 1.3-fold, respectively over pair-fed controls. Cytosolic NADH-nitroreductase from ethanol-fed rats was increased with 1,3-DNP (1.7-fold) and 1,8-DNP (1.4-fold) as substrates, but not with 1,6-DNP. Microsomes decreased the mutagenicity of DNP similarly to S9, i.e., fractions from ethanol-fed rats were more efficient than those of pair-fed rats in deactivating all the DNP isomers. Per mg of protein, detoxification of DNP by S9 was more efficient than with microsomes, thus both cytosolic and microsomal enzymes are required for maximal

detoxification. In summary, ethanol feeding modulates both the augmented cytosolic activation of DNP to mutagens and the deactivation of the direct-acting mutagenicity of DNP by microsomes. In combination, as is the case with S9, the microsomal detoxifying activity outcompetes the cytosolic activation. Author-abstract.

146

AN 92318981. 92000.

AU de-Andrade-H-H. Santos-J-H. Gimmler-Luz-M-C. Correa-M-J. Lehmann-M. Reguly-M-L.

IN Departamento de Genetica, Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil.

TI Suppressing effect of vanillin on chromosome aberrations that occur spontaneously or are induced by mitomycin C in the germ cell line of *Drosophila melanogaster*.

SO Mutat-Res. 1992 Jun 16. 279(4). P 281-7.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB In order to investigate the anticlastogenic effect of vanillin on ring-X loss, *D. melanogaster* females exposed to different vanillin concentrations were crossed with non-treated, MMC- or MMS-treated males. The results obtained with this in vivo investigation showed a significant inhibition of vanillin in the frequencies of spontaneous ring-X loss--59, 56, 38 and 36%--at the different concentrations used. In addition, vanillin treatment caused a significant suppression of MMC-induced ring-X loss. This decrease was observed only in the first 3 days after the interruption of vanillin treatment and at the concentrations of 0.5 and 1% of this flavoring agent. In contrast, vanillin did not show any effect on chromosome loss provoked by MMS. Therefore, the ring-X loss-decreasing effect of vanillin seemed to depend on the quality of DNA lesions and consequently on a specific enzymatic repair process present in the oocytes of *D. melanogaster*. Author-abstract.

147

AN 92317142. 92000.

AU Azuine-M-A. Kayal-J-J. Bhide-S-V.

IN Carcinogenesis Division, Tata Memorial Centre, Parel, Bombay, India.

TI Protective role of aqueous turmeric extract against mutagenicity of direct-acting carcinogens as well as benzo α : pyrene-induced genotoxicity and carcinogenicity.

SO J-Cancer-Res-Clin-Oncol. 1992. 118(6). P 447-52.

JT JOURNAL OF CANCER RESEARCH AND CLINICAL ONCOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Turmeric (*Curcuma longa* Linn.) has been shown to inhibit chemical carcinogenesis. In this study, we compared the chemopreventive efficacy of an aqueous turmeric extract (AqTE) and its constituents, curcumin-free aqueous turmeric extract (CFAqTE) and curcumin, using the *Salmonella typhimurium* mutagenicity assay and the bone marrow micronucleus test in female Swiss mice. AqTE exhibited *antimutagenic*

activity against direct-acting mutagens, 4-nitro-O-phenylenediamine and 1-methyl-3-nitro-1-nitrosoguanidine, in strains TA 98 and TA 100 respectively. Both AqTE and CFAqTE inhibited the mutagenicity of benzo `alpha:pyrene in the two strains in the presence of Aroclor-1254-induced rat liver homogenate. The inhibition in both studies was dose-dependent. Administration of AqTE, CFAqTE and curcumin at a dose of 3 mg/animal 18 h prior to i.p. benzo `alpha:pyrene injection (250 mg/kg) significantly inhibited bone marrow micronuclei formation in female Swiss mice by 43%, 76%, and 65% respectively. Furthermore, the incidence and multiplicity of forestomach tumours induced by benzo `alpha:pyrene (1 mg/animal, twice weekly, p.o. for 4 weeks) in female Swiss mice were significantly inhibited by AqTE, CFAqTE and curcumin given 2 weeks before, during and after the carcinogen treatment. These data indicate that the protection against genomic damage by turmeric extract and its components tested could be necessary for some aspects of its cancer chemoprevention. Author-abstract.

148

AN 92311160. 92000.

AU Hayatsu-H. Inada-N. Kakutani-T. Arimoto-S. Negishi-T. Mori-K. Okuda-T. Sakata-I.

IN Faculty of Pharmaceutical Sciences, Okayama University, Japan.

TI Suppression of genotoxicity of carcinogens by (-)-epigallocatechin gallate.

SO Prev-Med. 1992 May. 21(3). P 370-6.

JT PREVENTIVE MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB Epidemiological evidence shows that green tea may be a factor in lowering cancer risk. We have investigated the possibility that (-)-epigallocatechin gallate (EGCG), a major polyphenol in green tea, might be an *antimutagenic* substance. In the Ames Salmonella test, EGCG suppressed the direct-acting mutagenicity of 3-hydroxyamino-1-methyl-5H-pyrido`4,3-b:indole (Trp-P-2(NHOH)) and 2-hydroxyamino-6-methyldipyrido`1,2-a:3',2'-d:imidazole (Glu-P-1(NHOH)), the activated forms of food-derived carcinogens 3-amino-1-methyl-5H-pyrido`4,3-b:indole and 2-amino-6-methyldipyrido`1,2-a:3',2'-d:imidazole. EGCG was also effective in reducing the mutagenicity of Trp-P-2(NHOH) in mouse FM3A cells in culture. Furthermore, EGCG demonstrated a suppressive effect in the in vivo Drosophila mutation assays, i.e., the wing spot test, and the DNA repair test, on several carcinogens. EGCG was also effective in inhibiting DNA single-strand breaks in vitro caused by Glu-P-1(NHOH). We conclude that the mechanism of inhibition may not have resulted from direct interaction between EGCG and the mutagens, but rather from indirect interception of mutagen action by EGCG. Author-abstract.

149

AN 92311158. 92000.

AU Mukhtar-H. Wang-Z-Y. Katiyar-S-K. Agarwal-R.
 IN Department of Dermatology, University Hospitals of Cleveland, Case
 Western Reserve University, Ohio.
 TI Tea components: *antimutagenic* and anticarcinogenic effects.
 SO Prev-Med. 1992 May. 21(3). P 351-60.
 JT PREVENTIVE MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 AB BACKGROUND. Tea from the *Camellia sinensis* species of the Theaceae family is one of the most ancient and, next to water, the most widely consumed beverage in the world. Since tea contains several polyphenols and since several other naturally occurring dietary polyphenols have shown *antimutagenic* effects in bacteria and anticarcinogenic effects in animal bioassay systems, we studied whether polyphenols extracted from Chinese green tea (GTP) also possess *antimutagenic* and anticarcinogenic effects. RESULTS. GTP and its constituent epicatechin derivatives were found to interact with hepatic cytochrome P450 (P450) and inhibited the P450-dependent mixed-function oxidase enzymes in skin and liver. GTP and its epicatechin derivatives exhibited *antimutagenic* effects in several test systems. GTP showed substantial anti-skin-tumor-initiating and anti-skin-tumor-promoting activities when assessed in murine skin tumorigenesis bioassay systems. In these model systems polycyclic aromatic hydrocarbons, benzo[a]pyrene (BP), 3-methyl-cholanthrene, 7,12-dimethylbenzo[a]anthracene, and (+)-7 beta,8 alpha-dihydroxy-9 alpha,10 alpha-epoxy-7,8,9,10-tetrahydrobenzo[a]pyrene (an ultimate carcinogenic metabolite of BP) were used as model skin carcinogens. The feeding of GTP in drinking water to SKH-1 hairless mice also afforded significant protection against ultraviolet-B-radiation-induced skin photocarcinogenesis. CONCLUSIONS. These data suggest that tea components possess *antimutagenic* and anticarcinogenic effects, and that they could protect humans against the risk of cancer by environmental agents. Author-abstract.

150

AN 92301325. 92000.
 AU Vorobeva-L-I. Cherdyn'tseva-T-A. Vorobeva-N-V. Abilev-S-K.
 TI `Antimutagenicity of propionic acid bacteria:.
 SO Mikrobiologiya. 1991 Nov-Dec. 60(6). P 83-9.
 JT MIKROBIOLOGIYA.
 PT JOURNAL-ARTICLE (ART).
 AB The antimutagenicity of the cell extracts of *Propionibacterium shermanii* VKM-103, *P. pentosaceum* CCM 1859 and *P. acnes* CCM 3322 against mutagenicity of sodium azide and N-methyl-N'-nitro-N-nitrosoguanidine was demonstrated for the first time. The extracts of propionic acid cocci didn't show such effect. The *antimutagenic* factor acts as a desmutagen, has polypeptide nature and evidently is an enzyme (enzymes). The inhibitory effect of the extract is due to the presence of more than one protein factor in it. Author-abstract.

151

AN 92298804. 92000.
AU Xiao-C-Y. Lai-Q-Y.
IN Department of Hygiene, Zhanjiang Medical College, Guangdong.
TI `Inhibitory effects of balsam pear on the mutagenic activity of cyclophosphamide in vivo:.
SO Chung-Hua-Yu-Fang-I-Hsueh-Tsa-Chih. 1992 Jan. 26(1). P 11-2.
JT CHUNG-HUA YU FANG I HSUEH TSA CHIH CHINESE JOURNAL OF PREVENTIVE MEDICINE.
PT JOURNAL-ARTICLE (ART).
AB Inhibitory effects of balsam pear on the mutagenic activity of cyclophosphamide were studied in the cells of bone marrow of mouse in vivo. It was found that balsam pear juice itself showed no effect on the incidence of sister chromatid exchanges (SCE) and of micronuclei (MN) on the cells of bone marrow. But balsam pear juice reduced the incidence of SCE (from 29.1 times/cell to 13.27-28.38 times/cell) and MN (from 60.0% to 27.0%-50.0%) induced by cyclophosphamide respectively. The inhibitory effects showed a dose-dependent relation, which was statistically significant. Author-abstract.

152

AN 92293212. 92000.
AU Mendelsohn-M-L.
IN Biomedical Sciences Division, University of California, Lawrence Livermore National Laboratory 94550.
TI *Antimutagenic* effects in humans.
SO Mutat-Res. 1992 Jun. 267(2). P 257-64.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB The application of antimutagenicity studies to human somatic mutation is discussed, with emphasis on the potential for future studies. Five assay-gene combinations are now available for measuring human somatic mutation in lymphocytes and erythrocytes. Results with these combinations have defined the human background levels, and show clear responses of mutant frequency to a variety of mutagens. The testing of *antimutagenic* effects on background frequencies is feasible, but has not yet been done. The major uncertainty in such studies is the unknown age of mutant cells in the background, since only the newly forming mutants are potentially susceptible to most *antimutagenic* treatments. Intervention studies in the face of active mutagenicity and the use of other genotoxicity endpoints, such as chromosome aberrations, micronuclei and DNA adducts, are considered briefly. Author-abstract. 42 Refs.

153

AN 92293209. 92000.
AU Mitscher-L-A. Telikepalli-H. Wang-P-B. Kuo-S. Shankel-D-M. Stewart-G.
IN Department of Medicinal Chemistry, University of Kansas, Lawrence

66045.

TI Antimutagenicity of secondary metabolites from higher plants.

SO Mutat-Res. 1992 Jun. 267(2). P 229-41.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Higher plants contain both mutagens and *antimutagens* and are susceptible to mutagenesis but screening programs for detection of antimutagenesis rarely employ higher plant systems. Short-term bacterial and mammalian tissue culture systems are the norm. Using modified screening tests for detecting *antimutagenic* agents, higher plants have been shown to contain a variety of structurally novel *antimutagenic* agents. Systematic bioassay-directed methodology resulted in the isolation in pure form and biological and chemical characterization of the responsible individual active components from various plants. The methodology in use is illustrated by the isolation of cinnamic acid, cinnamyl cinnamate and cinnamyl ricinoleate as the active constituents of the classic medicinal plant product, *Styrax asiatica*. The methods which may be used to reveal structure-activity relationships and to explore putative molecular modes of action are illustrated with excerpts from the same study. Author-abstract. 38 Refs.

154

AN 92293208. 92000.

AU Ramel-C. Magnusson-J.

IN Department of Genetic and Cellular Toxicology, Wallenberg Laboratory, Stockholm University, Sweden.

TI Modulation of genotoxicity in *Drosophila*.

SO Mutat-Res. 1992 Jun. 267(2). P 221-7.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The extensive knowledge of the genetics of *Drosophila melanogaster* and the long experimental experience with this organism have made it of unique usefulness in mutation research and genetic toxicology. The development of somatic mutation and recombination tests (SMART) has provided sensitive, rapid and cheap assays for investigations of mutagenic and recombinogenic properties of chemicals. The present paper deals with the SMART wing spot assay, developed by Graf et al. (1984). The use of two genetic markers, multiple wing hair (mwh) and flare (flr) in the third chromosome, makes it possible to discern localized recombinogenic effects on the two intervals--the major, euchromatic, part of the chromosome, and the mostly heterochromatic centromere region. The distribution of induced mitotic recombination varied between test chemicals. Ethylene oxide caused a specific increase of twin spots, indicating a localized induction of somatic recombination in the centromere region. The wing spot assay has turned out to be suitable for combined treatment with chemicals in order to study *antimutagenic* and other modulating effects by mutagenic and recombinogenic chemicals. Examples of the use of this assay for such a purpose are presented in this paper. The inhibitor

of poly ADP-ribosylation, 3-aminobenzamide (3AB), caused a pronounced increase of wing spots, induced by alkylating agents. The data indicate that this interaction between alkylating agents and 3AB is solely due to an effect on somatic recombination but not on point mutations. The inhibitor of topoisomerases, novobiocin, which presumably acts on the chromatin configuration, had different modulating effects on spots induced by methyl methanesulfonate (MMS) and ethylnitrosourea (ENU). Novobiocin essentially acted as an antirecombinogenic agent in cotreatment experiments with MMS and as *antimutagenic* agent with ENU. Attempts to interfere with mutagenic and recombinogenic effects of the radical-generating agents bleomycin, menadione and paraquat, by agents acting on the defence mechanisms against oxygen radicals, were essentially unsuccessful. Author-abstract. 16 Refs.

155

AN 92293207. 92000.

AU Gebhart-E.

IN Institute of Human Genetics, University of Erlangen-Nurnberg, Germany.

TI Anticlastogenicity in cultured mammalian cells.

SO Mutat-Res. 1992 Jun. 267(2). P 211-20.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Basic and applied research on anticlastogenicity has not only revealed valuable evidence on the mechanisms governing the induction of chromosomal aberrations by environmental mutagens, but also contributed effective ideas on a practical employment of this knowledge for the protection of individuals at risk. Considering the basic role played by chromosomal anomalies in oncogenesis, additional weight must be attributed to studies on anticlastogenicity. The employment of human cells in this kind of study dates back to 1969/70, while classical mammalian cell systems were used only later on. Various modes of application of both clastogens and anticlastogens (AC) were examined, but simultaneous addition to the cultures of both reagents was the most favored way. A wide spectrum of cytogenetic endpoints can be studied, but differences can be demonstrated with regard to efficacy of inhibitors on different types of cytogenetic changes, e.g., open breaks vs. rearrangements, but also vs. SCEs. Depending on their mode of influence on this spectrum, ACs can be arranged in various categories which are of practical importance, for instance, with regard to their oncogenic potential. A wide variety of factors was shown to influence AC action, e.g., time and mode of application of the test substances, physiologic and metabolic features of the cell types studied, type and mechanism of the clastogen used, etc. The addition of S9 mix can drastically change the patterns of efficacy of the ACs. The combined application of two or more ACs, as far as investigated, apparently neither potentiates nor even merely adds their effects.

Author-abstract. 54 Refs.

156

AN 92293206. 92000.
AU Kuroda-Y. Jain-A-K. Tezuka-H. Kada-T.
IN Azabu University Research Institute of Biosciences, Sagamihara,
Japan.
TI Antimutagenicity in cultured mammalian cells.
SO Mutat-Res. 1992 Jun. 267(2). P 201-9.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 29 Refs.

157

AN 92293205. 92000.
AU Bronzetti-G. Della-Croce-C. Galli-A.
IN Istituto di Mutagenesi e Differenziamento, CNR, Pisa, Italy.
TI Antimutagenicity in yeast.
SO Mutat-Res. 1992 Jun. 267(2). P 193-200.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB In recent years there has been increasing interest in
antimutagenesis, and studies have been done using both prokaryotic
and eukaryotic systems. In eukaryotic systems the first studies were
performed with different strains of *Schizosaccharomyces pombe*. In
particular, caffeine and L-methionine were investigated. Different
strains of *Saccharomyces cerevisiae* were employed in studies of a
wide variety of compounds, including acridine, saccharin, salts,
tumor promoters and co-carcinogens. Strain D7 was widely employed
and *antimutagenic* activity of spermine, chlorophyllin, cobaltous
chloride and fermented milk is reported. Author-abstract. 79 Refs.

158

AN 92293204. 92000.
AU De-Flora-S. Camoirano-A. DAgostini-F. Balansky-R.
IN Institute of Hygiene and Preventive Medicine, University of Genoa,
Italy.
TI Modulation of the mutagenic response in prokaryotes.
SO Mutat-Res. 1992 Jun. 267(2). P 183-92.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB Short-term tests investigating genetic end-points in prokaryotes have
been extensively used worldwide not only for risk assessment purposes
but also for evaluating the modulation of the mutagenic response. In
spite of some intrinsic limitations, such as the lack of cell
compartmentalization or the need for an exogenous metabolic system
working extracellularly, experimental systems in bacteria can provide
useful preliminary indications and some information on the mechanisms
involved. In the large majority of studies the putative modulator is
mixed with a known mutagen and then assayed in target bacteria, with
suitable controls. However, under natural conditions exposure of

target cells to modulators may either precede, co-exist with, or follow exposure to mutagens. Therefore, a variety of methodological variations, involving pre-treatment, co-treatment, or post-treatment of bacteria with the putative modulator, have been designed. Application of these procedures showed that the effects of modulators can be completely upset, from inhibition to enhancement, or vice versa, by changing the experimental conditions. Use of methodological variations may provide more complete information on the spectrum of possible effects in bacteria as well as a better insight into modulation mechanisms. Several examples illustrating the flexibility of the Salmonella test in this field of research are available. On the other hand, the widespread use of these relatively simple techniques, yet requiring skillfulness and experience, may lead to some misuse or oversimplifications. A rather common inadequacy is to use excessive amounts of test mutagens, or to express the results in terms of revertants/survivors, rather than revertants/plate. In fact, in the Salmonella test the number of revertants is rather unrelated to the initial number of plated bacteria, provided a normal background lawn of bacterial growth is formed. Thus, a 50% killing of bacteria will not appreciably influence the number of revertants/plate, but expressed as revertants/survivors the effect will look twice as large.

Author-abstract. 25 Refs.

159

AN 92293203. 92000.

AU Barrai-I. Barale-R. Scapoli-C. Ambrosino-P. Beretta-M. Sbrana-C. Micheletti-R. Loprieno-N.

IN Dipartimento di Biologia Evolutiva, Universita di Ferrara, Italy.

TI The analysis of the joint effect of substances on reversion systems and the assessment of antimutagenicity.

SO Mutat-Res. 1992 Jun. 267(2). P 173-82.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The statistical methods for the analysis of mutagenicity and carcinogenicity underwent considerable theoretical-practical development following the need for assessing the mutagenic and carcinogenic potential of substances. Antimutagenicity is investigated through the analysis of respondents in dose-response assays, when two different molecules are administered separately and as a mixture to a respondent system. When the number of respondent units is high, and doses are orthogonal, it is possible to apply simple models such as analysis of variance. This is not always possible or common, and alternative approaches have been developed, based on multiple regression and on tables of proportions. In this work, some of the most frequently used methods for the assessment of joint responses are reviewed, particularly those based on multiple regression, such as the method of Shaeffer et al. and the method of Hass et al. In order to illustrate these methods, joint responses of perylene and cyclopentapyrene, of N-acetylcysteine and dinitropyrene,

and of N-acetylcysteine and extracts from diesel exhausts were analyzed. An antagonistic effect of perylene on the action of CPP was detected by the algorithm of Shaeffer et al. The effect is not multiplicative, i.e., it is not proportional to the product of doses. The *antimutagenic* effect of N-acetylcysteine on dinitropyrene is multiplicative, as detected by the method of Hass et al. The latter reveals that the inhibition by N-acetylcysteine on the mutagenic effect of extracts from diesel exhausts is also multiplicative. Author-abstract. 22 Refs.

160

AN 92293202. 92000.

AU Brockman-H-E. Stack-H-F. Waters-M-D.

IN Department of Biological Sciences, Illinois State University, Normal 61761.

TI Antimutagenicity profiles of some natural substances.

SO Mutat-Res. 1992 Jun. 267(2). P 157-72.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Selected antimutagenicity listings and profiles have been prepared from the literature on the antimutagenicity of retinoids and the carotenoid beta-carotene. The antimutagenicity profiles show: (1) a single *antimutagen* (e.g., retinol) tested in combination with various mutagens or (2) *antimutagens* tested against a single mutagen (e.g., aflatoxin B1). Data are presented in the profiles showing a dose range for a given *antimutagen* and a single dose for the corresponding mutagen; inhibition as well as enhancement of mutagenic activity is indicated. Information was found in the literature on the testing of selected combinations of 16 retinoids and carotenoids vs. 33 mutagens. Of 528 possible *antimutagen-mutagen* combinations, only 82 (16%) have been evaluated. The most completely evaluated retinoids are retinol (28 mutagens), retinoic acid and retinol acetate (7 mutagens each), and retinal and retinol palmitate (6 mutagens each). beta-Carotene is the most frequently tested carotenoid (15 mutagens). Of the remaining retinoids and carotenoids, 8 were evaluated in combination with a single mutagen and the other 2 were tested against only 2 or 3 mutagens. Most of the data on antimutagenicity in vitro are available for *S. typhimurium* strains TA98 and TA100. Substantial data also are available for sister-chromatid exchanges in vitro and chromosome aberrations in vitro and in vivo. This report emphasizes the metabolic as well as the *antimutagenic* effects of retinoids in vitro and in vivo. Author-abstract. 49 Refs.

161

AN 92293201. 92000.

AU De-Flora-S. Bronzetti-G. Sobels-F-H.

IN Institute of Hygiene and Preventive Medicine, University of Genoa, Italy.

TI Assessment of antimutagenicity and anticarcinogenicity.

SO Mutat-Res. 1992 Jun. 267(2). P 153-5.

JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).

162

AN 92293200. 92000.
TI Assessment of antimutagenicity and anticarcinogenicity--end-points
and systems `published erratum appears in Mutat Res 1992
Aug;268(2):330:.
SO Mutat-Res. 1992 Jun. 267(2). P 153-295.
JT MUTATION RESEARCH.
PT OVERALL (OVR).

163

AN 92291647. 92000.
AU Sakagami-H. Asano-K. Hara-Y. Shimamura-T.
IN First Department of Biochemistry, School of Medicine, Showa
University, Tokyo, Japan.
TI Stimulation of human monocyte and polymorphonuclear cell iodination
and interleukin-1 production by epigallocatechin gallate.
SO J-Leukoc-Biol. 1992 May. 51(5). P 478-83.
JT JOURNAL OF LEUKOCYTE BIOLOGY.
PT JOURNAL-ARTICLE (ART).
AB (-)Epigallocatechin gallate (EGCg) stimulated iodination of human
peripheral blood monocytes, polymorphonuclear cells (PMN), and human
promyelocytic leukemic HL-60 cells, dependent on time, dose, and
temperature. However, EGCg did not affect iodination of nonadherent
peripheral blood mononuclear cells, red blood cells, or 11 other
cultured cell lines. Although various immunoregulators such as
lipopolysaccharide (LPS), opsonized zymosan,
12-O-tetradecanoylphorbol-13-acetate (TPA) and tumor necrosis factor
stimulated PMN iodination to varying degrees, their ability to
stimulate monocyte iodination was much lower than that of EGCg.
Washout experiments demonstrated that contact with EGCg for less than
60 min irreversibly stimulated PMN and monocyte iodination. EGCg
also potently stimulated the production of interleukin-1-like factor
by monocytes. The data suggest that EGCg is a strong in vitro
stimulant of human phagocytes. Author-abstract.

164

AN 92289440. 92000.
AU Kusainova-K-A. Vasileva-I-M. Chekova-V-V. Akhmatullina-N-B.
Zasukhina-G-D.
TI `Protection from the effect of cadmium chloride of human cells,
pretreated with vitamins, interferon and preliminary low-dose gamma
irradiation:.
SO Dokl-Akad-Nauk-SSSR. 1992. 322(2). P 398-401.
JT DOKLADY AKADEMII NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

165

AN 92282579. 92000.

AU Tseng-T-H. Chu-C-Y. Wang-C-J.

IN Department of Biochemistry, Chung Shan Medical and Dental College,
Taichung, Taiwan, Republic of China.

TI Inhibition of penta-acetyl geniposide on AFB1-induced genotoxicity in
C3H10T1/2 cells.

SO Cancer-Lett. 1992 Mar 15. 62(3). P 233-42.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB A new compound, penta-acetyl geniposide ((Ac)5-GP), was obtained from
modified extract of Gardenia fructus (San-Jee-Chee in Chinese). The
structure of the compound was identified as
1-(beta-D-2',3',4',6'-tetraacetyl-glucopyrannosyloxyl)-1,4a,
5,7a-tetrahydro-7-(acetomethyl)-cyclopentapyran-4-carboxylic acid
methyl ester, according to the spectral data. The inhibitory effects
of (Ac)5-GP on aflatoxin B1 (AFB1)-induced cytotoxicity and DNA
damage were studied. In the investigation of the inhibitory effect
of (Ac)5-GP on AFB1-cytotoxicity, the plating efficiency of C3H10T1/2
cells in S-9 activation system was increased. In addition, (Ac)5-GP
inhibited the DNA damage of AFB1-treated C3H10T1/2 cells, and it
interfered with the inhibitory effect of DNA synthesis caused by
AFB1. These results suggest that the reduced DNA damage and the
increased DNA synthesis from cultured C3H10T1/2 cells are important
mechanisms for the inhibition of AFB1-cytotoxicity by (Ac)5-GP.
Author-abstract.

166

AN 92266530. 92000.

AU Grdina-D-J. Kataoka-Y. Basic-I. Perrin-J.

IN Biological and Medical Research Division, Argonne National
Laboratory, IL 60439.

TI The radioprotector WR-2721 reduces neutron-induced mutations at the
hypoxanthine-guanine phosphoribosyl transferase locus in mouse
splenocytes when administered prior to or following irradiation.

SO Carcinogenesis. 1992 May. 13(5). P 811-4.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB An in vitro T-lymphocyte cloning technique has been applied to study
the effects of JANUS fission-spectrum neutron irradiation and the
radioprotector S-2-(3-aminopropylamino) ethylphosphorothioic acid
(WR-2721) on the subsequent development of somatic mutations at the
hypoxanthine-guanine phosphoribosyl transferase (hprt) locus in
hybrid B6CF1 male mice. In control studies performed to establish an
in vitro cloning technique, the mutant frequencies of splenic
T-lymphocytes, as a result of exposure to a 100 cGy dose of neutrons,
increased with time from a control level of 9×10^{-7} to a maximum
value of 1.7×10^{-5} at 56 days following irradiation. Between 56
and 150 days after irradiation, mutant frequencies were observed to
plateau and remain stable. All subsequent determinations were
performed at 56 days following the experimental treatment of animals.

WR-2721 at a dose of 400 mg/kg was effective in protecting against the induction of hprt mutants (i.e. a mutant frequency reduction factor, MFRF) following the largest dose of neutrons used (i.e. 150 cGy), whether it was administered i.p. 30 min before, 5 min after, 3 h after, or three times at 3, 24, and 48 h after, as evidenced by MFRFs of 6.0, 6.6, 4.8 and 5.8 respectively. The *antimutagenic* effectiveness of WR-2721 administered 30 min prior to irradiation was unaffected, even when the dose was reduced to 200 mg/kg, MFRF = 7.0; 100 mg/kg, MFRF = 3.8; and 50 mg/kg, MFRF = 8.9. These findings confirm our earlier report using the radioprotector N-(2-mercaptoethyl)-1,3-diaminopropane (WR-1065) under in vitro conditions, and demonstrate that these agents can be used as effective *antimutagens* even when they are administered up to 3 h following radiation exposure. Author-abstract.

167

AN 92265205. 92000.

AU Chen-J.

IN Institute of Nutrition and Food Hygiene, Chinese Academy of Preventive Medicine, Beijing.

TI The *antimutagenic* and anticarcinogenic effects of tea, garlic and other natural foods in China: a review.

SO Biomed-Environ-Sci. 1992 Mar. 5(1). P 1-17.

JT BIOMEDICAL AND ENVIRONMENTAL SCIENCES.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB 77 Refs.

168

AN 92256932. 92000.

AU Cheng-S. Ding-L. Zhen-Y. Lin-P. Zhu-Y. Chen-Y. Hu-X.

IN Institute of Oncology, CAMS, Beijing.

TI Progress in studies on the antimutagenicity and anticarcinogenicity of green tea epicatechins.

SO Chin-Med-Sci-J. 1991 Dec. 6(4). P 233-8.

JT CHINESE MEDICAL SCIENCES JOURNAL.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB An antioxidative fraction was extracted from green tea and the major compounds in the fraction identified as epicatechins. Experimental results showed that green tea epicatechin compounds (GTEC) inhibited the mutagenicity and/or chromosomal damage caused by different carcinogens in both bacterial and mammalian cells. In vitro, GTEC inhibited transformation of BALB/3T3 cells induced by BP, X-rays, or MCA/TPA. In vivo, green tea extract decreased the incidence of carcinoma in the forestomach and esophagus of mice induced by sarcosine and NaNO₂. GTEC inhibited the development of gamma-glutamyl transpeptidase-positive foci in the livers of rats treated with diethyl nitrosamine (DEN) or DEN/phenobarbital. Our investigations indicate that the *antimutagenic* and anticarcinogenic mechanisms of GTBC are related to the following: increased glutathione-S-transferase activity; inhibition of edema, hyperplasia,

and ODC activity induced by TPA; free radical scavenging; blocked tumor promoter-induced inhibition of intercellular communication; and enhanced cell-mediated immunity. GTEC might be useful in the prevention of some kinds of cancer and a variety of oxidation-related diseases. Author-abstract. 21 Refs.

169

AN 92255209. 92000.
AU Trizna-Z. Hsu-T-C. Schantz-S-P.
IN Department of Head and Neck Surgery, University of Texas M.D. Anderson Cancer Center, Houston 77030.
TI Protective effects of vitamin E against bleomycin-induced genotoxicity in head and neck cancer patients in vitro.
SO Anticancer-Res. 1992 Mar-Apr. 12(2). P 325-7.
JT ANTICANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The quantitative protective effects of alpha-tocopherol acid and alpha-tocopherol acid succinate on mutagen-induced genotoxicity were studied in human lymphoblastoid cell lines and lymphocytes from cultures of peripheral blood. Both agents showed a dose-dependent protection both in lymphoblastoid cell lines and in lymphocytes of head and neck cancer patients. The concentrations used were in the pharmacologic concentration range of vitamin E. The protection against genetic toxic effects may be an important part of the cancer-protective effects of vitamin E. Author-abstract.

170

AN 92252867. 92000.
AU Shahin-M-M.
IN Department of Chemical Protection and Photobiological Research in Vitro, L'Oreal Research Laboratories, Aulnay-sous-Bois, France.
TI The protective effect of 4-(2-oxo-3-bornylidene)methyl-phenyl trimethylammonium methylsulphate against the induction of gene mutations by ultraviolet, visible light and 8-methoxypsoralen in *Saccharomyces cerevisiae*.
SO Mutat-Res. 1992 May 1. 279(1). P 49-54.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).

171

AN 92252865. 92000.
AU Ruan-C-C. Liang-Y. Liu-J-L. Tu-W-S. Liu-Z-H.
IN Guangxi Cancer Institute, Nanning, China.
TI *Antimutagenic* effect of eight natural foods on moldy foods in a high liver cancer incidence area.
SO Mutat-Res. 1992 May 1. 279(1). P 35-40.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Ames test procedures were used to test 8 natural food extracts for their *antimutagenic* activity against the mutagenic activity induced

in *S. typhimurium* strains TA98 and TA100 by aflatoxin B1 (AFB1) or metabolic extracts from *A. versicolor* or *A. ochraceus*. The tested substances were extracted repeatedly with acetone. The revertants induced by AFB1, metabolic extracts of *A. versicolor* or *A. ochraceus* were significantly decreased when extracts of the 8 natural foods were added to the media. The results showed that these extracts had marked inhibitory effects on the mutagenic activity induced by AFB1 or metabolic extracts of the two molds and also suggested that *antimutagenic* substances were present in these natural foods. These experiments provide a scientific basis for the study of food substances for the prevention of carcinogenesis. It is considered that these 8 natural food extracts produce marked *antimutagenic* effects and are practically valuable in the field of chemoprophylaxis of liver cancer in humans. Author-abstract.

172

AN 92252711. 92000.

AU Polasa-K. Raghuram-T-C. Krishna-T-P. Krishnaswamy-K.

IN National Institute of Nutrition, Jamai-osmania, Hyderabad, India.

TI Effect of turmeric on urinary mutagens in smokers.

SO Mutagenesis. 1992 Mar. 7(2). P 107-9.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Curcumin, the active principle of turmeric, is known to act as an anti-oxidant, anti-mutagen and anti-carcinogen in experimental animals. In the present study, anti-mutagenic effects of turmeric were assessed in 16 chronic smokers. It was observed that turmeric, given in doses of 1.5 g/day for 30 days, significantly reduced the urinary excretion of mutagens in smokers. In contrast, in six non-smokers, who served as control, there was no change in the urinary excretion of mutagens after 30 days. Turmeric had no significant effect on serum aspartate aminotransferase and alanine aminotransferase, blood glucose, creatinine and lipid profile. These results indicate that dietary turmeric is an effective anti-mutagen and it may be useful in chemoprevention. Author-abstract.

173

AN 92251005. 92000.

AU Hosoda-M. Hashimoto-H. Morita-H. Chiba-M. Hosono-A.

IN Technical Research Laboratory, Takanashi Milk Products Co., Ltd., Kanagawa-ken, Japan.

TI Antimutagenicity of milk cultured with lactic acid bacteria against N-methyl-N'-nitro-N-nitrosoguanidine.

SO J-Dairy-Sci. 1992 Apr. 75(4). P 976-81.

JT JOURNAL OF DAIRY SCIENCE.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effect of cultured milk using 71 strains of lactic acid bacteria belonging to the genus *Lactobacillus*, *Streptococcus*, *Lactococcus*, and *Bifidobacterium* on the mutagenicity of N-methyl-N'-nitro-N-nitrosoguanidine was investigated in vitro using

Salmonella typhimurium TA 100 as an indicator bacterium. Each cultured milk sample displayed its characteristic *antimutagenic* effect on the mutagenicity of N-methyl-N'-nitro-N-nitrosoguanidine. The milk cultured with Lactobacillus acidophilus LA 106 (LA2) showed the highest inhibition of 77% against the mutagenicity of N-methyl-N'-nitro-N-nitrosoguanidine among the strains tested. Changes in the *antimutagenic* effect of the milk cultured by Lb. acidophilus LA 106 (LA2) during incubation were also examined using N-methyl-N'-nitro-N-nitrosoguanidine as a mutagen. Author-abstract.

174

AN 92244286. 92000.

AU Galli-A. Della-Croce-C. Minnucci-S. Fiorio-R. Bronzetti-G.

IN Istituto di Mutagenesi e Differenziamento CNR, Pisa, Italy.

TI Influence of cinnamaldehyde on UV-induced gene conversion and point mutation in yeast: effect on protein synthesis.

SO Mutat-Res. 1992 May. 282(1). P 55-60.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The activity of cinnamaldehyde (CIN), a bioantimutagen in bacterial systems, was tested in the D7 strain of yeast *Saccharomyces cerevisiae*. Yeast cells were UV-irradiated and post-incubated in liquid growth medium for 2 and 4 h with different concentrations of cinnamaldehyde. During the post-incubation period, DNA-damage-specific functions may be induced. This in turn may affect the genotoxicity and in fact a weak decrease in UV-induced revertant and revertant frequencies was observed after 4 h of post-incubation. The presence of CIN in the growth medium increased the UV-induced gene conversion and reversion. The addition of cycloheximide abolished this effect. To evaluate the CIN effect on protein synthesis, extracts of cells UV-treated and post-incubated for 2 h in the presence of 35S-methionine were performed. SDS-gel electrophoresis demonstrated the inhibitory effect of CIN on a UV-specific protein. This work suggests that CIN might interfere with DNA-damage-inducible systems although it did not exert an *antimutagenic* activity in our experimental conditions. Author-abstract.

175

AN 92236681. 92000.

AU Han-J-S.

IN Department of Biological Sciences, Illinois State University, Normal 61761.

TI Effects of various chemical compounds on spontaneous and hydrogen peroxide-induced reversion in strain TA104 of *Salmonella typhimurium*.

SO Mutat-Res. 1992 Apr. 266(2). P 77-84.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB In experiments designed to determine which active oxygen species contribute to hydrogen peroxide (HP)-induced reversion in strain

TA104 of *Salmonella typhimurium*, 1,10-phenanthroline (an iron chelator, which prevents the formation of hydroxyl radicals from HP and DNA-bound iron by the Fenton reaction), sodium azide (a singlet oxygen scavenger), and potassium iodide (an hydroxyl radical scavenger) inhibited HP-induced reversion. These results indicate that hydroxyl radicals generated from HP by the Fenton reaction, and perhaps singlet oxygen, contribute to HP-induced reversion in TA104. However, reduced glutathione (reduces Fe³⁺ to Fe²⁺ and/or HP to water), diethyldithiocarbamic acid (an inhibitor of superoxide dismutase), diethyl maleate (a glutathione scavenger), and 3-amino-1,2,4-triazole (an inhibitor of catalase) did not inhibit HP-induced reversion in TA104. Thus, superoxide radical anions and HP itself do not appear to be the cause of HP-induced reversion in this strain. In experiments on the effect of 5 common dietary compounds (beta-carotene, retinoic acid, and vitamins A, C and E), chlorophyllin (CHL), and ergothioneine, the frequency of revertants in TA104 increased above the spontaneous frequency in the presence of beta-carotene or vitamin C (about 2-fold) or vitamin A (about 3-fold). The 5 dietary *antimutagens* and CHL did not inhibit HP-induced reversion in TA104. However, L-ergothioneine inhibited HP-induced reversion in this strain. Therefore, it is likely that L-ergothioneine is a scavenger of hydroxyl radicals or an inhibitor of their formation, and perhaps of singlet oxygen, at the concentrations tested in TA104. Author-abstract.

176

AN 92236670. 92000.

AU Shimoi-K. Akaiwa-E. Mori-N. Sano-M. Nakamura-Y. Tomita-I.

IN Laboratory of Health Science, School of Pharmaceutical Sciences, University of Shizuoka, Japan.

TI *Bio-antimutagenic* activities of vitamin B6 in *E. coli* and mouse peripheral blood cells.

SO Mutat-Res. 1992 Apr. 266(2). P 205-13.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Pyridoxal (PL) and pyridoxal 5'-phosphate (PLP) showed a marked *bio-antimutagenic* effect on UV-induced mutagenesis in *E. coli* B/r WP2, but not in the DNA excision repair-deficient strain WP2suvrA under the condition where no cellular toxicity was observed. No delay in the first cell division was seen on post-treatment with PL after UV irradiation. PL reduced not only UV- but 4-nitroquinoline-1-oxide-induced mutation, while it was ineffective in N-methyl-N'-nitro-N-nitrosoguanidine- or gamma-ray-treated cells. These results suggest that PL promotes DNA excision repair directly or indirectly and the decrease in the amount of unrepaired DNA damage might cause the reduction of UV-induced mutations in *E. coli* B/r WP2. In addition to the above observation, PLP reduced the frequency of mitomycin C- (2 mg/kg, i.p.) induced micronuclei in mouse peripheral blood cells. Simultaneous or subsequent oral administration of PLP (25 mg/kg) decreased the frequency of micronucleated peripheral

reticulocytes. Author-abstract.

177

AN 92232017. 92000.

AU Shuff-S-T. Chowdhary-P. Khan-M-F. Sorenson-J-R.

IN Department of Biology, Henderson State University, Arkadelphia, AR 71923.

TI Stable superoxide dismutase (SOD)-mimetic ternary human serum albumin-Cu(II)(3,5-diisopropylsalicylate)₂/Cu(II)₂(3,5-diisopropylsalicylate)₄ complexes in tissue distribution of the binary complex.

SO Biochem-Pharmacol. 1992 Apr 1. 43(7). P 1601-12.

JT BIOCHEMICAL PHARMACOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Copper(II)₂(3,5-diisopropylsalicylate)₄ `Cu(II)₂(3,5-DIPS)₄: has been found to have antiinflammatory, antiulcer, anticancer, anticonvulsant, *antimutagenic,* antidiabetic, analgesic, and radiation protection and recovery activities. It has also been found to reduce ischemia-reperfusion injury. Because of these activities it was of interest to understand how this compound is transported in the body to affected tissues. Evidence supporting the suggested formation of ternary human serum albumin (HSA)-Cu(II)(3,5-DIPS)₂ or Cu(II)₂(3,5-DIPS)₄ complexes was obtained using ultraviolet spectrophotometry, dialysis, and atomic absorption spectrophotometry or atomic emission spectroscopy. Superoxide dismutase (SOD)-mimetic activity was also determined using the xanthine/xanthine oxidase/cytochrome c system. Ultraviolet spectra of aqueous solution mixtures of Cu(II)₂(3,5-DIPS)₄ in equilibrium with 2Cu(II)(3,5-DIPS)₂ and HSA as well as aqueous solutions of solid Cu(II)₂(3,5-DIPS)₄ obtained by stirring the solid with an aqueous solution of HSA showed no obvious change in absorbance to indicate ternary complex formation. However, comparison of ultraviolet spectra taken before and after dialysis supports the suggested bonding of Cu(II)(3,5-DIPS)₂ or Cu(II)₂(3,5-DIPS)₄ to HSA. Comparison of copper concentrations before and after dialysis also supports the suggested bonding of Cu(II)(3,5-DIPS)₂ or Cu(II)₂(3,5-DIPS)₄ to HSA. Based upon these data it is plausible that Cu(II)(3,5-DIPS)₂ or Cu(II)₂(3,5-DIPS)₄ form stable ternary complexes with HSA. These stable ternary complexes were also found to have SOD-mimetic activity. Author-abstract.

178

AN 92210038. 92000.

AU Yen-G-C. Tsai-L-C. Lii-J-D.

IN Department of Food Science, National Chung Hsing University, Taichung, Taiwan, Republic of China.

TI *Antimutagenic* effect of Maillard browning products obtained from amino acids and sugars.

SO Food-Chem-Toxicol. 1992 Feb. 30(2). P 127-32.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effects of Maillard reaction products (MRPs) prepared by heating three sugars (fructose, glucose and xylose) and four amino acids (arginine, glycine, lysine and tryptophan) at 100 degrees C for 10 hr was evaluated in the Salmonella/microsome assay. The highest extent of browning was found in the MRPs of sugars-lysine and xylose-amino acids. The MRPs of xylose-amino acids showed stronger antioxidative activity and reducing power than did the other combinations. No mutagenicity or toxicity in Salmonella typhimurium TA98 was observed with any of the MRPs in the presence of S-9. Most MRPs, especially those of sugars-tryptophan and xylose-amino acids, strongly inhibited the mutagenicity of 2-amino-3-methylimidazo(4,5-f)quinoline (IQ), 3-amino-1,4-dimethyl-5H-pyridol-(4,3-b)indole (Trp-P-1) and 2-amino-6-methyldipyrido(1,2-a:3',2'-d)imidazole (Glu-P-1) in the presence of S-9. However, the MRPs of fructose-glycine and fructose-arginine increased the mutagenicity of Trp-P-1. The *antimutagenic* effect of the MRPs was well correlated with their antioxidative activity and reducing power. The mutagenicity of benzo`a:pyrene was moderately inhibited by most MRPs, but was increased by the MRP of glucose-arginine. Aflatoxin B1 mutagenicity was increased greatly by all the MRPs except that of xylose-tryptophan. The findings suggested that MRPs might have a bifunctional property of co-mutagenicity and antimutagenicity in certain cases. Author-abstract.

179

AN 92208270. 92000.

AU Luo-H. Jiang-Y. Cheng-S. Han-N. Li-X. Ye-S. Liang-J.

IN Institute of Oncology, CAMS, Beijing.

TI A preliminary study on the *antimutagenic* properties of vegetables and fruits.

SO Chin-Med-Sci-J. 1991 Jun. 6(2). P 113-8.

JT CHINESE MEDICAL SCIENCES JOURNAL.

PT JOURNAL-ARTICLE (ART).

180

AN 92195172. 92000.

AU Schimmer-O. Kiefer-J. Paulini-H.

IN Institut fur Botanik und Pharmazeutische Biologie, Universitat Erlangen-Nurnberg, FRG.

TI Inhibitory effects of furocoumarins in Salmonella typhimurium TA98 on the mutagenicity of dictamnine and rutacridone, promutagens from Ruta graveolens L.

SO Mutagenesis. 1991 Nov. 6(6). P 501-6.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Eight furocoumarins differing in their basic structure and substitution pattern (angular, linear, dihydrofuran type) were tested for their ability to reduce the mutagenic potency of dictamnine and

rutacridone, two alkaloids present in extracts from *Ruta graveolens* L. Both compounds need metabolic activation by S9 mix in order to exhibit mutagenicity in *Salmonella typhimurium* strain TA98. The furocoumarins used in this study did not show any mutagenicity either with or without S9 mix within the dose range tested. However, all the furocoumarins were able to inhibit the mutagenicity induced by dictamnine as well as by rutacridone in a dose-dependent manner. Imperatorin turned out to be the most efficient inhibitor. The inhibitory effect is probably due to the inactivation of the cytochrome P450 enzyme complex which prevents the activation of the promutagens. This is indicative of the desmutagenic character of the furocoumarins. However, there is also some evidence that the reduction of the mutagenicity induced by dictamnine might be caused to a small extent by a mechanism which possibly depends on the competition with furocoumarins for the same sites in the DNA molecule. Author-abstract.

181

AN 92184626. 92000.

AU Grdina-D-J. Dale-P. Weichselbaum-R.

IN Biological and Medical Research Division, Argonne National Laboratory, IL 60439.

TI Protection against AZT-induced mutagenesis at the HGPRT locus in a human cell line by WR-151326.

SO Int-J-Radiat-Oncol-Biol-Phys. 1992. 22(4). P 813-5.

JT INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY, BIOLOGY, PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The anti-AIDS agent, AZT (3'-azido-3'-deoxythymidine), is mutagenic in a cultured human hepatoma cell line designated HepG2 at the HGPRT (hypoxanthine-guanine phosphoribosyl transferase) locus. Using an exposure time of 3 hr, the number of mutants per 10^6 surviving cells increased as a function of AZT dose from 125 to 520. Chinese hamster ovary cells, in contrast, are not affected with respect to this endpoint when similar concentrations of AZT are used (i.e., 0.1 to 10 mg/ml). The aminothiols WR-151326 3-(3-methylaminopropylamino) propanethiol dihydrochloride: was evaluated as a possible *antimutagen* for use with AZT. At a concentration of 4 mM, WR-151326 was added either concomitantly or following exposure of HepG2 cells to a 5 mg/ml concentration of AZT. Regardless of the treatment condition, WR-151326 was effective in reducing the mutagenic effects of AZT by about a factor of 2. Correcting for background mutations, the mutation frequencies determined were: AZT only for 3 hr, 110×10^{-6} (S.E.M. $\pm 6.0 \times 10^{-6}$); AZT together with WR-151326 for 3 hr, 57×10^{-6} (S.E.M. $\pm 3.0 \times 10^{-6}$); and AZT for 3 hr followed by WR-151326 for 3 hr, 68×10^{-6} (S.E.M. $\pm 5.0 \times 10^{-6}$). This study demonstrates that AZT is mutagenic to a cell line of human origin and that WR-151326 can protect against this mutagenic process. Author-abstract.

182

AN 92184177. 92000.

AU Zu-H-X. Schut-H-A.

IN Department of Pathology, Medical College of Ohio, Toledo 43699.

TI Inhibition of 2-amino-3-methylimidazo`4,5-f:quinoline-DNA adduct formation in CDF1 mice by heat-altered derivatives of linoleic acid.

SO Food-Chem-Toxicol. 1992 Jan. 30(1). P 9-16.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Grilled ground beef contains a number of carcinogens, including aminoimidazoazaarenes, such as 2-amino-3-methylimidazo`4,5-f:quinoline (IQ), as well as anticarcinogenic substances, such as heat-generated derivatives of linoleic acid (CLA). In the present study, CLA was administered by gavage every other day to young adult CDF1 mice for a period of 45 days (50 microliters/48 hr for days 1-24 and 100 microliters/48 hr for days 25-45), using trioctanoin as a control. On day 46 all animals received a single oral dose (50 mg/kg) of IQ and tissues were collected 24 hr later. Tissue DNA was purified and analysed for IQ-DNA adducts by 32P-postlabelling assays. Compared with controls, CLA treatment caused a 43.1 and 31.8% inhibition of adduct formation in the livers of male and female mice, respectively. In the lung and large intestine CLA had a 74.2 and 39.4% inhibitory effect, respectively, in the female only, whereas there was no effect in the stomach or small intestine of either sex. In the kidneys of females, CLA treatment inhibited IQ-DNA adduct formation almost completely (95.2%), whereas in the kidneys of males CLA had no effect. It is concluded that CLA inhibits IQ-DNA adduct formation in certain IQ target organs (liver and lung) and non-target organs (large intestine, kidney), but is inactive in other target organs (stomach) and non-target organs (small intestine) of the CDF1 mouse. Author-abstract.

183

AN 92174892. 92000.

AU Albertini-S. Gocke-E.

IN Pharma Division, F. Hoffmann-La Roche Ltd; Basel, Switzerland.

TI Phenobarbital: does the positive result in TA1535 indicate genotoxic properties?

SO Environ-Mol-Mutagen. 1992. 19(2). P 161-6.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The liver carcinogen phenobarbital (PB) causes a weak but reproducible increase of the mutant frequency in the Ames test, strain TA1535, without S9. Since there is no obvious chemical basis for a "DNA reactivity" of this compound experiments were performed to obtain information about possible indirect mechanisms of enhancing the number of spontaneous mutant colonies. In the course of the study strong synergistic and comutagenic effects of PB when given in combination with Na-azide or 2-aminoanthracene (2AA) were observed. Not only TA1535 but the complete set of tester strains was

responsive. However, PB did not enhance the effects of other mutagens such as 4-nitroquinoline N-oxide or 2-nitrofluorene. It is argued that in strain TA1535 the fixation and expression of spontaneously occurring DNA lesions is amenable to modulation by PB similar to that of Na-azide or 2AA induced lesions. Thus in the usual sense, PB is not genotoxic in the Ames test. Methapyrilene, another liver carcinogen with an assumed nongenotoxic mode of action, showed almost identical properties in these experiments.
Author-abstract.

184

AN 92174140. 92000.

AU Wong-B-Y. Lau-B-H. Teel-R-W.

IN Department of Natural Science, Graduate School, Loma Linda University, CA 92350.

TI Chinese medicinal herbs modulate mutagenesis, DNA binding and metabolism of benzo`a:pyrene 7,8-dihydrodiol and benzo`a:pyrene 7,8-dihydrodiol-9,10-epoxide.

SO Cancer-Lett. 1992 Feb 29. 62(2). P 123-31.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Oldenlandia diffusa(OD) and Scutellaria barbata (SB) have been used in traditional Chinese medicine for treating liver, lung and rectal tumors. In this study, the effects of aqueous extracts of these two herbs on benzo`a:pyrene 7,8-dihydrodiol. (BaP 7,8-DHD) and benzo`a:pyrene 7,8-dihydrodiol-9,10-epoxide (BPDE)-induced mutagenesis using Salmonella typhimurium TA100 as the bacterial tester strain and rat liver 9000 x g supernatant (S9) as the metabolic activation system were assessed. We also determined the effects of these two herbs on BaP 7,8-DHD and BPDE binding to calf thymus DNA. Organosoluble metabolites of BaP 7,8-DHD and water-soluble conjugates of BaP 7,8-DHD and BPDE were analyzed by high-performance liquid chromatography (HPLC) and alumina column liquid chromatography. Mutagenesis assays revealed that these two herbs produced a significant concentration-dependent inhibition of histidine-independent (His+) revertants induced by BaP 7,8-DHD and BPDE. OD and SB also inhibited BPDE-induced mutagenesis in a concentration-dependent manner in the absence of S9. SB had a greater inhibitory effect than OD. SB significantly inhibited BaP 7,8-DHD and BPDE binding to DNA while OD significantly enhanced DNA binding of both compounds. OD and SB inhibited the formation of organosoluble metabolites of BaP 7,8-DHD and decreased the formation of water-soluble conjugates of BaP 7,8-DHD and BPDE. However, the fraction of the total radioactivity in the water-soluble conjugates present as sulfate and glutathione was increased by OD and SB. Glucuronide fraction was decreased. The results of this study affirm our previous work suggesting that these two Chinese medicinal herbs possess *antimutagenic* properties and further suggest that they act as blocking agents through a scavenging mechanism. Author-abstract.

AN 92174127. 92000.

AU de-Kok-T-M. van-Faassen-A. Bausch-Goldbohm-R-A. ten-Hoor-F.
Kleinjans-J-C.

IN Department of Health Risk Analysis and Toxicology, University of
Limburg, Maastricht, The Netherlands.

TI Fecapentaene excretion and fecal mutagenicity in relation to nutrient
intake and fecal parameters in humans on omnivorous and vegetarian
diets.

SO Cancer-Lett. 1992 Feb 14. 62(1). P 11-21.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Fecapentaenes are strong fecal mutagenic compounds presumably
occurring in the majority of Western human individuals, and are
possibly essential initiators of colon carcinogenesis. Dietary
factors have been shown to influence colorectal cancer risk and to
modulate both fecal mutagenicity and fecapentaene concentrations.
Therefore, in this study, excretion of fecapentaenes is determined in
humans consuming either vegetarian or omnivorous diets. The results
show that the most predominant fecapentaene forms are excreted in
higher concentrations by vegetarians. Consumption of cereal fiber,
calcium and carotene as well as fecal concentrations of
iso-lithocholic acid were found to correlate positively with excreted
concentrations of one or more fecapentaene analogues. On average,
22% of excreted fecapentaene concentrations was found to be related
to nutrient intake in stepwise regression models. Dietary calcium
intake was found to be the most significant factor positively
correlating with excreted fecapentaene concentrations. Intake of
mono-unsaturated fatty acids or fiber from vegetables and fruit could
be shown to correlate with fecapentaene excretion to a lesser degree.
Despite high fecapentaene concentrations in fecal dichloromethane
extracts, only 1 out of 20 samples revealed significant mutagenic
activity in Salmonella typhimurium TA 100. Further, aqueous extracts
of feces from omnivores appeared to be equally mutagenic as feces
from vegetarians and contained non-detectable concentrations of
fecapentaenes. It is concluded that dietary factors do affect
excreted fecapentaene levels, but only to a relatively minor extent.
Since vegetarians at low risk for colorectal cancer excrete higher
concentrations of fecapentaenes, it could be hypothesized that
relatively increased fecapentaene excretion in combination with
antimutagenic compounds in feces represents colon cancer prevention.
Author-abstract.

AN 92166564. 92000.

AU Kataoka-Y. Basic-I. Perrin-J. Grdina-D-J.

IN Biological and Medical Research Division, Argonne National
Laboratory, IL 60439-4833.

TI *Antimutagenic* effects of radioprotector WR-2721 against
fission-spectrum neutrons and ⁶⁰Co gamma-rays in mice.

SO Int-J-Radiat-Biol. 1992 Mar. 61(3). P 387-92.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effects of the radiation protective agent, S-2-(3-aminopropylamino)ethylphosphorothioic acid (WR-2721), were studied against fission-spectrum-neutron- and ^{60}Co -gamma-ray-induced mutagenesis in mice. Mutagenesis at the hypoxanthine-guanine phosphoribosyl transferase (hprt) locus was measured 56 days following whole-body irradiation with JANUS neutrons (single doses, 50-150 cGy) or ^{60}Co photons (single doses, 250-750 cGy). Splenic T lymphocytes from B6CF1 mice were grown in round-bottomed 96-microwell culture plates with or without the selective agent 6-thioguanine (6-TG). The mutant frequency, as a result of exposure to neutrons or ^{60}Co photons, increased 100-fold with dose. Doses of 150 cGy neutrons and 750 cGy ^{60}Co photons were equally mutagenic. When animals were injected with WR-2721 at a dose of 400 mg/kg body weight, i.p., 30 min before whole-body irradiation with JANUS neutrons or ^{60}Co photons, mutant frequencies were significantly reduced at all radiation doses (i.e. protection factors of 1.4 and 2.4, respectively). Thus, the aminothiols are effective *antimutagens.* A novel clinical application of these compounds could be in their use to protect against radiation- and/or chemotherapy-induced genotoxic damage to normal cells.
Author-abstract.

187

AN 92156085. 92000.

AU Bebenek-K. Roberts-J-D. Kunkel-T-A.

IN Laboratory of Molecular Genetics, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina 27709.

TI The effects of dNTP pool imbalances on frameshift fidelity during DNA replication.

SO J-Biol-Chem. 1992 Feb 25. 267(6). P 3589-96.

JT JOURNAL OF BIOLOGICAL CHEMISTRY.

PT JOURNAL-ARTICLE (ART).

AB The use of unequal concentrations of the four deoxynucleoside triphosphates (dNTPs) in DNA polymerization reactions alters base substitution error rates in a predictable way. Less is known about the effects of substrate imbalances on base addition and deletion error rates. Thus, we examined pool bias effects on frameshift fidelity during DNA synthesis catalyzed by replicative DNA polymerases. Imbalanced pools altered the frameshift fidelity of the human immunodeficiency virus type-1 reverse transcriptase. Both mutagenic and *antimutagenic* effects were observed for minus-one, plus-one, and minus-two nucleotide errors, in a highly sequence-specific manner. Most of this specificity can be rationalized by either of two models. One involves frameshifts initiated by pool bias-induced nucleotide misinsertion, and the other involves pool bias-initiated template-primer slippage. Several examples of complex mutations were also recovered more than once in

small mutant collections. These contained closely spaced single-base substitution and minus-one base frameshift changes. The two changes occurred at a frequency much higher than predicted if they were generated independently. This suggests that when the polymerase makes one mistake, the probability that it will make a second mistake within the next few incorporations increases significantly. Perturbation of dNTP pools also affected the frameshift fidelity of the replicative yeast DNA polymerase alpha. In reactions containing a low concentration of one dNTP, the error rate increased for one-nucleotide deletions at homopolymeric template nucleotides complementary to the dNTP whose concentration was low. We extended this approach to determine the frameshift fidelity of simian virus 40 origin-dependent semiconservative replication of double-stranded DNA in extracts of human cells. In reactions performed with an equal concentration of all four dNTPs, replication was highly accurate for minus-one-nucleotide errors. However, when the concentration of one dNTP was decreased, the replication error rate increased at complementary, homopolymeric template positions. This response provides an approach for describing frameshift accuracy during replication of the leading and lagging strands. Author-abstract.

188

AN 92137700. 92000.

AU Lotareva-O-V. Filippov-V-D.

TI `Manifestation of *antimutagenic* activity of "dark" repair under alternative levels of aeration of UV-irradiated bacteria:.

SO Genetika. 1991 Sep. 27(9). P 1499-502.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The cease of aeration of UV-irradiated bacteria incubated in glucose-salt medium does not affect *antimutagenic* activity of excision repair in Escherichia coli cells but strongly inhibits that in Bacillus subtilis cells. It has been suggested that these differences are connected with various possibilities for energy (ATP) production in facultative anaerobe, which is E. coli, and obligate anaerobe, Bac. subtilis. The absence of noticeable influence of the aerobiosis----anaerobiosis shift on the kinetics of disappearance of potential mutations in E. coli cells is interpreted in terms of existence of a mechanism regulating the expenditure of cell energy reserve upon repair process. It is suggested that the low rate of disappearance of potential mutations observed in post-irradiation conditions favourable for protein synthesis is a consequence of limited supply of energy to repair process at some sites of cellular DNA, due to great expense of energy for protein synthesis. Author-abstract.

189

AN 92127718. 92000.

AU Dashwood-R-H.

IN Department of Environmental Biochemistry, University of Hawaii,

Honolulu 96822.

TI Protection by chlorophyllin against the covalent binding of 2-amino-3-methylimidazo[4,5-f]quinoline (IQ) to rat liver DNA.

SO Carcinogenesis. 1992 Jan. 13(1). P 113-8.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin (CHL), a sodium/copper salt of chlorophyll used in the treatment of geriatric patients, exhibits potent *antimutagenic* activity in a range of assays in vitro and in vivo. The protective effects of CHL were studied in Sprague-Dawley rats using inhibition of carcinogen-DNA binding as an end-point. Animals were administered CHL (150 mg/kg body wt) and ¹⁴C:2-amino-3-methylimidazo[4,5-f]quinoline (IQ, 50 mg/kg body wt) by single oral gavage. Covalent IQ-DNA binding in liver was determined 8, 24 and 48 h after dosing; CHL inhibited binding at these times by 58, 56 and 46% respectively, compared with rats given IQ alone. The total liver burden of IQ-derived radioactivity was reduced in CHL-treated rats, as was the total amount of radiolabel eliminated in the urine and bile. However, elimination via the feces was increased in rats given CHL, both in terms of total radiolabel eliminated and amount of unmetabolized IQ in dichloromethane extracts of feces. Finally, pretreatment with CHL in the drinking water, or injection of CHL into isolated loops of intestine in situ, reduced the absorption of IQ from the gut. Collectively, these findings indicate that, when administered simultaneously with the carcinogen, CHL attenuates IQ-DNA binding in rat liver by interacting with IQ in the gut and reducing carcinogen uptake, distribution and metabolism. The results suggest that further studies should be conducted with respect to the protective mechanisms and possible anti-carcinogenic properties of CHL. Author-abstract.

190

AN 92123252. 92000.

AU Salvadori-D-M. Ribeiro-L-R. Oliveira-M-D. Pereira-C-A. Becak-W.

IN Laboratorio de Toxicologia e Genetica Toxicologica, Escola de Medicina Veterinaria, Universidade Federal da Bahia, Ondina, Salvador, Brazil.

TI The protective effect of beta-carotene on genotoxicity induced by cyclophosphamide.

SO Mutat-Res. 1992 Feb. 265(2). P 237-44.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The influence of beta-carotene on the clastogenicity of the indirect-acting mutagen cyclophosphamide (CPA) was investigated in mice, in vivo, for the induction of chromosome aberrations in bone marrow cells (BM). beta-Carotene (0.5, 1.0, 2.0, 5.0, 10, 25, 50, 100 and 200 mg/kg) was administered by gavage for 5 consecutive days. 4 h after the last treatment with beta-carotene, the mice were injected intraperitoneally with CPA, and the BM cells were fixed after 16, 24 and 32 h for the evaluation of the frequency of

chromosome aberrations. The results showed that beta-carotene was effective in reducing chromosomal damage induced by CPA with the increase of its concentration up to a level after which this effect was not observed. This anticlastogenicity was better detected when the cells were fixed at 32 h, although a tendency in reducing the CPA clastogenicity was already observed at 16 and 24 h. Our results suggest that beta-carotene provides significant protection against the genotoxicity of CPA, although no dose-effect relationship on the frequencies of cells with chromosomal aberrations was observed. Author-abstract.

191

AN 92120161. 92000.
AU DeGraff-W-G. Krishna-M-C. Russo-A. Mitchell-J-B.
IN Radiobiology Section, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20892.
TI Antimutagenicity of a low molecular weight superoxide dismutase mimic against oxidative mutagens.
SO Environ-Mol-Mutagen. 1992. 19(1). P 21-6.
JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).
AB A set of stable nitroxide free radicals that are used as spin labels have been shown to possess metal-independent superoxide dismutase-like activity. Unlike superoxide dismutase (SOD), these compounds are low molecular weight, and readily penetrate into the cell. A representative nitroxide, 4-hydroxy-2,2,6,6-tetramethylpiperidinyloxy (Tempol), was investigated for *antimutagenic* activity in the XPRT forward mutation assay in CHO AS52 cells. AS52 cells were exposed to hydrogen peroxide, or the hypoxanthine/xanthine oxidase superoxide generating system, in the presence or absence of 10 mM Tempol. Tempol itself was not mutagenic or toxic to AS52 cells. Tempol protected cells nearly completely from the cytotoxic and mutagenic effects of hydrogen peroxide and hypoxanthine/xanthine oxidase. We have previously shown that nitroxides do not alter the extracellular concentration of hydrogen peroxide, and that they are taken up by mammalian cells, suggesting that the *antimutagenic* activity of Tempol is an intracellular phenomenon. Author-abstract.

192

AN 92117679. 92000.
AU Srinivas-L. Shalini-V-K. Shylaja-M.
IN Department of Nutrition and Food Safety, Central Food Technological Research Institute, Karnataka State, India.
TI Turmerin: a water soluble antioxidant peptide from turmeric `Curcuma longa:.
SO Arch-Biochem-Biophys. 1992 Feb 1. 292(2). P 617-23.
JT ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Dietary spice components have been screened for their protective

effect against reactive oxygen species (ROS)-induced, lipid peroxide-mediated membrane and DNA damage and mutagenicity. A new, water soluble, 5-kDa peptide--Turmerin--from turmeric (*Curcuma longa*) has been found to be an efficient

antioxidant/DNA-protectant/antimutagen. Turmerin forms 0.1% of the dry weight of turmeric and is obtained in a crystalline form. It is a heat stable, noncyclic peptide containing 40 amino acid residues, with a blocked N-terminal and leucine at the C-terminal. It is insensitive to trypsin and pepsin, heat, and uv radiation. Turmerin contains three residues of methionine which are partly responsible for the antioxidant activity. Turmerin at 183 nM offers 80% protection to membranes and DNA against oxidative injury. ROS-induced arachidonate release and the mutagenic activity of t-butyl hydroperoxide are substantially inhibited by Turmerin. Turmerin is noncytotoxic up to milligram concentrations, as tested by Ames assay and in human lymphocytes. Author-abstract.

193

AN 92114666. 92000.

AU Uchida-S. Ozaki-M. Suzuki-K. Shikita-M.

IN Yutoku Pharmaceutical Ind. Co., Kashima-shi, Japan.

TI Radioprotective effects of (-)-epigallocatechin 3-O-gallate (green-tea tannin) in mice.

SO Life-Sci. 1992. 50(2). P 147-52.

JT LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART).

AB Long-term administration of (-)-epigallocatechin 3-O-gallate (EGCG) to mice through drinking water prevented radiation-induced increase of lipid peroxides in liver and significantly prolonged life span after lethal whole-body X-irradiation. The result indicates validity of this green-tea component as an orally active radio-protector of very low toxicity. Author-abstract.

194

AN 92104539. 92000.

AU Lee-H. Tsai-S-J.

IN Department of Biochemistry, Chung Shan Medical and Dental College, Taiwan, Republic of China.

TI Effect of emodin on cooked-food mutagen activation.

SO Food-Chem-Toxicol. 1991 Nov. 29(11). P 765-70.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The herbs *Rheum palmatum* B and *Polygonum cuspidatum* S are frequently used as laxatives and anticancer drugs in Chinese medicine. The *antimutagenic* activity of these herbs as well as their active component emodin was examined in *Salmonella typhimurium* TA98. The crude extracts and emodin induced a dose-dependent decrease in the mutagenicity of benzo(a)pyrene (B(a)P), 2-amino-3-methylimidazo(4,5-f)quinoline (IQ) and 3-amino-1-methyl-5H-pyrido(4,3-b)indole (Trp-P-2). Furthermore,

emodin reduced the mutagenicity of IQ by direct inhibition of the hepatic microsomal activation and not by interaction with proximate metabolites of IQ and/or by modification of DNA repair processes in the bacterial cell. Author-abstract.

195

AN 92079963. 92000.

AU Vorobjeva-L-I. Cherdinceva-T-A. Abilev-S-K. Vorobjeva-N-V.

IN Department of Microbiology, Biology Faculty, Moscow State University, U.S.S.R.

TI Antimutagenicity of propionic acid bacteria.

SO Mutat-Res. 1991 Dec. 251(2). P 233-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effect of dialysed cell extracts of 4 strains of propionic acid bacteria was examined against the mutagenicity of sodium azide in the TA1535 tester strain of *Salmonella typhimurium* using the Ames test. It was noted that dialysates of 2 strains of *Propionibacterium shermanii*, *P. pentosaceum* and *P. acnes*, significantly reduced sodium azide-induced revertants. The dialysate of propionic acid cocci did not show an *antimutagenic* effect. The inhibitory activity was enhanced if the mutagen and extract were coincubated for 20 min prior to performing the mutagenicity assay. Antimutagenicity of dialysates from *P. shermanii* VKM-103 against MNNG and 9-aminoacridine was shown in *S. typhimurium* strains TA1535 and TA97. The *antimutagenic* activity was found in the protein fraction of the cell extract of *P. shermanii*. The proteins of the dialysate of *P. shermanii* were separated using a Toyopearl gel column into 3 main peaks according to their molecular weights. The *antimutagenic* activity towards sodium azide was found in the second and the third peaks. We suggest that dialysates of the cells of propionic acid bacteria contain several kinds of *antimutagenic* substances with different molecular weights. Author-abstract.

196

AN 92079958. 92000.

AU Khandogina-E-K. Mutovin-G-R. Zvereva-S-V. Antipov-A-V.

Zverev-D-O. Akifyev-A-P.

IN 2nd Moscow Medical Institute, Academy of Sciences of the U.S.S.R.

TI Adaptive response in irradiated human lymphocytes: radiobiological and genetical aspects.

SO Mutat-Res. 1991 Dec. 251(2). P 181-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The adaptive response (AR) in human lymphocytes in different experimental protocols was investigated. The AR was found to be present in cells pre-exposed to 3 cGy of X-rays in G0, G1 and S phase as well as with tritiated water (4 μ Ci/ml) when the 'challenge' dose was given in G2. There was no AR after prior exposure of the cells in S phase to secondary irradiation from 70 GeV protons. The AR was

not observed after preliminary X-irradiation of the lymphocytes in G0 and G1 and 'challenge' irradiation in G1. Cells from 6 patients with Down's syndrome were tested. At least 5 of them did not show the AR. The AR is considered to be a phenomenon of the *antimutagenic* aftereffect. Author-abstract.

197

AN 92079941. 92000.

AU Filippov-V-D. Lotareva-O-V. Kuralenko-O-V.

TI `Determination of the initial rate of *antimutagenic* repair in UV-irradiated WP2 Escherichia coli cells:.

SO Mol-Gen-Mikrobiol-Virusol. 1991 Jul. (7). P 20-2.

JT MOLEKULIARNAIA GENETIKA, MIKROBIOLOGIA, I VIRUSOLOGA.

PT JOURNAL-ARTICLE (ART).

AB The initial rates of *antimutagenic* dark repair were measured in Escherichia coli WP2 trpE65 cells irradiated by UV-light (11 J/m²) and then incubated in liquid media of various compositions. Samples were taken from suspension of incubated bacteria every 5 min following irradiation, mixed with acriflavine to block further repair and plated onto the selective medium containing acriflavine (1 micrograms/ml) to score the Trp⁺ mutations. The initial rate of *antimutagenic* repair was estimated from the kinetics of disappearance of mutations in several successive probes. It appeared to depend on the composition of a medium, to establish just after placing irradiated bacteria onto the medium and to decrease significantly in irradiated cells incubated under conditions favourable for growth. The decrease was not due to inhibition of postreplicative repair and was not caused by casaminoacids as such, but by combination of growth factors that provided the intensive protein synthesis. The decrease could be responsible for a strong mutational response of bacteria to irradiation because it secures the survival of premutagenic lesions in DNA till mutation fixation. It is suggested that metabolic regulation of the *antimutagenic* repair activity exists, based on an active switch of the energy flows required for several parallel metabolic pathways that proceed in irradiated cells. Author-abstract.

198

AN 92074406. 92000.

AU Goldschmidt-M-C.

IN Dental Branch, University of Texas Health Science Center, Houston 77225.

TI Reduced bactericidal activity in neutrophils from scorbutic animals and the effect of ascorbic acid on these target bacteria in vivo and in vitro.

SO Am-J-Clin-Nutr. 1991 Dec. 54(6 Suppl). P 1214S-1220S.

JT AMERICAN JOURNAL OF CLINICAL NUTRITION.

PT JOURNAL-ARTICLE (ART).

AB Actinomycetes, involved in oral and periodontal diseases, cause serious infections in immunocompromised hosts. Severely scorbutic

guinea pig leukocytes killed only 12% of phagocytosed actinomycetes, had distorted nuclear morphology, had 16 times less ascorbate, and had no chemotactic responses in vitro. Ascorbate reversed these indices and also prevented nitrosamine formation by oral organisms. Degranulating leukocytes release lactoferrin and ascorbate that chelate iron, essential for microorganisms. Ascorbic acid, 2,2'-bipyridine and 1,10-phenanthroline were bactericidal to several bacterial pathogens at millimolar concentrations. Iron alone reversed this effect. In in vivo experiments an *Actinomyces viscosus* monoflora was implanted in rhesus monkeys. Plaque and serum samples showed decreased (by six orders of magnitude) bacterial counts and decreased actinomycete antibody titers in animals given 1 g ascorbate/d. Removing ascorbate returned counts and titers to preascorbate concentrations. Fifteen marmosets, receiving twice daily topical applications of ascorbate or water, had comparatively lower gingival, calculus, and plaque indices and only slightly lowered actinomycete counts. Author-abstract.

199

AN 92063814. 92000.

AU Zolotareva-G-N. KinzirskiAS. Loginova-N-S. Galochkina-Z-I. Ershov-F-I.

TI `Anticarcinogenic and antimetastatic activity of interferon inducers of natural and synthetic origin with expressed *antimutagenic* properties:.

SO Dokl-Akad-Nauk-SSSR. 1991. 317(4). P 992-6.

JT DOKLADY AKADEMII NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

200

AN 92053022. 92000.

AU Bakhitova-L-M. Pashin-O-V. Drobchenko-Sn. Bondarev-G-I.

TI *`Antimutagenic* activity of dextran gammaphos derivatives:.

SO Radiobiologiya. 1991 Jul-Aug. 31(4). P 506-9.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB In experiments with V-79 Chinese hamster cell culture the influence of dextran gammaphos derivatives on the mutagenic effects of gamma-radiation was studied by the number of cells with micronuclei and fragmented nuclei. Products of interaction between gammaphos and dialdehyde dextran were shown to have a higher *antimutagenic* activity than gammaphos. Author-abstract.

201

AN 92049507. 92000.

AU Wang-Z-Y. Agarwal-R. Zhou-Z-C. Bickers-D-R. Mukhtar-H.

IN Department of Dermatology, Skin Diseases Research Center, University Hospitals of Cleveland, Case Western Reserve University, OH.

TI *Antimutagenic* and antitumorigenic activities of nordihydroguaiaretic acid.

SO Mutat-Res. 1991 Nov. 261(3). P 153-62.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Nordihydroguaiaretic acid (NDGA), which occurs in the resinous exudates of many plants is used as an antioxidant in fats and oils. In this study we show that NDGA inhibited the mutagenicity of methyl methanesulfonate, benzo`a:pyrene (BP), 2-aminofluorene, and aflatoxin B1 in Salmonella typhimurium strain TA100 or TA98 in the absence and presence of rat hepatic microsomal activation system. The addition of NDGA during and after nitrosation of methylurea (MU) resulted in a dose-dependent inhibition of mutagenicity induced by nitrosation products of MU. In a two-stage skin tumorigenesis protocol using 7,12-dimethylbenz`a:anthracene (DMBA) as the initiating agent followed by twice weekly applications of 12-O-tetradecanoylphorbol-13-acetate (TPA) as tumor promoter, pretreatment of animals with NDGA prior to DMBA application, afforded significant protection against skin tumorigenicity in female SENCAR mice. In additional studies, skin application of NDGA also inhibited the binding of topically applied `3H:BP and `3H:DMBA to epidermal DNA. When assessed in the anti-tumor promotion protocol, pretreatment of animals with NDGA before each application of TPA in DMBA-initiated mouse skin, resulted in 72% decrease in the total number of tumors when compared to non-NDGA pretreated animals. The possible mechanism(s) of the *antimutagenic* and anti-tumorigenic activities may be due to the multiple effects of NDGA as inhibitor of the carcinogen metabolism and DNA-adduct formation, scavenger of carcinogen free radicals, and as inhibitor of TPA-induced ornithine decarboxylase activity. Author-abstract.

202

AN 92049481. 92000.

AU Pincheira-J. Lopez-Saez-J-F.

IN Departamento de Biologia Celular y Genetica, Facultad de Medicina, Universidad de Chile, Santiago.

TI Effects of caffeine and cycloheximide during G2 prophase in control and X-ray-irradiated human lymphocytes.

SO Mutat-Res. 1991 Nov. 251(1). P 71-7.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effect of caffeine and cycloheximide during the G2 phase on frequency of chromosomal aberrations and G2 duration was studied in control and X-ray-irradiated human lymphocytes in vitro. Caffeine treatments alone increase the frequencies of chromatid breakage and decrease the average G2 duration in control and X-ray-irradiated lymphocytes (40 R). Both caffeine effects are reversed by 0.5 micrograms/ml cycloheximide in combination treatments. Cycloheximide treatments alone prolong G2 duration in control as well as in X-ray-irradiated lymphocytes although no improvement in chromosome repairing by this inhibitor of protein synthesis was observed under the conditions of our experiments. We propose that the cycloheximide

effect is associated with a low level of mitotic factors, required for the entrance into mitosis, which is maintained at a higher level in caffeine treatment alone. Finally, G2 delay has generally been associated with certain genome damage. The fact that the caffeine and cycloheximide effects on X-irradiated lymphocytes are also present in control lymphocytes (without X-rays) suggests that control of the G2 duration constitutes one of the mechanisms involved in DNA repair operating during the G2 phase. Author-abstract.

203

AN 92049465. 92000.

AU Gentile-J-M. Gentile-G-J.

IN Department of Biology, Hope College, Holland, MI 49423.

TI The metabolic activation of 4-nitro-o-phenylenediamine by chlorophyll-containing plant extracts: the relationship between mutagenicity and antimutagenicity.

SO Mutat-Res. 1991 Sep-Oct. 250(1-2). P 79-86.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin, the sodium and copper salt of chlorophyll, chlorophyll a, and chlorophyll b were tested for their ability to inhibit the mutagenic activity of the direct-acting mutagen 4-nitro-o-phenylenediamine (NOP) and its plant-activated mutagenic enhancement. All three forms of chlorophyll were *antimutagenic* against both NOP and its plant-activated product, with chlorophyllin proving most effective. Chlorophyll-containing plant extracts, however, proved very efficient at activating NOP into a mutagen of greater potency. When these extracts were assayed for total chlorophyll content it was found that they contained far less chlorophyll than was required for an *antimutagenic* effect to occur. Thus, the balance between chemical mutagen activation and/or enhancement by chlorophyll-containing plant extracts and the potential antimutagenicity of these plant extracts is a function of chlorophyll concentration. The data presented here indicate that this balance must be taken into consideration in future studies investigating the efficacy of complex natural plant extracts as *antimutagenic* substances. Author-abstract.

204

AN 92026221. 92000.

AU De-Flora-S. Izzotti-A. DAgostini-F. Cesarone-C-F.

IN Institute of Hygiene and Preventive Medicine, University of Genoa, Italy.

TI Antioxidant activity and other mechanisms of thiols involved in chemoprevention of mutation and cancer.

SO Am-J-Med. 1991 Sep 30. 91(3C). P 122S-130S.

JT AMERICAN JOURNAL OF MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB Our studies provide evidence that thiols, such as N-acetyl-L-cysteine, inhibit both spontaneous mutations and induced

mutations in bacteria, prevent the in vivo formation of carcinogen-DNA adducts, and suppress or delay the development of tumors or preneoplastic lesions in rodents. N-Acetylcysteine and other thiols exert antioxidant activity toward superoxide anion, hydrogen peroxide, and singlet oxygen, assessed in bacterial genotoxicity models. In addition, several other mechanisms were shown to contribute to their *antimutagenic* and anticarcinogenic activities, in the extracellular environment and in nontarget or target cells. These mechanisms include blocking of electrophilic metabolites and of direct-acting compounds, either of endogenous or exogenous source, modulation of several xenobiotic-metabolizing pathways, and protection of DNA-dependent nuclear enzymes. Chemoprevention of mutation and cancer by thiols is particularly useful under conditions of reduced glutathione (GSH) depletion due to toxic agents or to cancer-associated viral diseases, such as acquired immunodeficiency syndrome (AIDS) or viral hepatitis B. Author-abstract. 51 Refs.

205

AN 92018111. 92000.

AU Perez-A. Gago-G.

IN Institute of Nutrition and Food Hygiene, Havana, Cuba.

TI *Antimutagenic* activity of lettuce and chard extracts.

SO Nahrung. 1991. 35(4). P 369-71.

JT NAHRUNG.

PT JOURNAL-ARTICLE (ART).

AB The ability of lettuce and chard extracts to reduce the mutagenic activity of Benzo`a:pyrene was studied. In this experiment several groups of male Balb/C mice were treated with different doses of the substances under study. B`a:p was administered at doses of 36 and 72 mg/kg of body weight to groups II and III, respectively. The lettuce extract combined with the doses of B`a:p were administered to groups IV and V. The experiment was performed again under the same conditions to test the effect of chard extract. Urine samples were tested by means of the Ames assay. The results show that the mutagenic activity of the urine samples from groups treated with B`a:p was reduced when the treatment also included any vegetable extract. Author-abstract.

206

AN 92007814. 92000.

AU Cozzi-R. Perticone-P. Bona-R. Polani-S.

IN Dipartimento di Genetica e Biologia Molecolare, Universita La Sapienza, Rome, Italy.

TI *Antimutagenic* activities of naturally occurring polyamines in Chinese hamster ovary cells in vitro.

SO Environ-Mol-Mutagen. 1991. 18(3). P 207-11.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Spermine and spermidine, ubiquitous polyamines present in bacteria

and animal cells, are also involved in cell growth. Since they interact with the double helix, they can stabilize the DNA molecule. Recent evidence of the *antimutagenic* and anticarcinogenic capacity of spermine has focused attention on the mechanism(s) by which such agents can protect cells from induced damages. In the present paper we show the ability of spermine and spermidine to decrease the level of sister chromatid exchanges induced in Chinese hamster ovary cells cultivated in vitro, by treating them with Psoralen + UVA irradiation (able to induce mainly monoadducts and DNA cross-links). Two different mechanisms of polyamine action can be invoked to explain the preservative activity of this class of agents. Author-abstract.

207

AN 92007146. 92000.

AU Agarwal-R. Wang-Z-Y. Bik-D-P. Mukhtar-H.

IN Department of Dermatology, University Hospitals of Cleveland, Case Western Reserve University, OH.

TI Nordihydroguaiaretic acid, an inhibitor of lipooxygenase, also inhibits cytochrome P-450-mediated monooxygenase activity in rat epidermal and hepatic microsomes.

SO Drug-Metab-Dispos-Biol-Fate-Chem. 1991 May-Jun. 19(3). P 620-4.

JT DRUG METABOLISM AND DISPOSITION: THE BIOLOGICAL FATE OF CHEMICALS.

PT JOURNAL-ARTICLE (ART).

AB Nordihydroguaiaretic acid (NDGA), a plant lignan and phenolic antioxidant, is a known lipooxygenase inhibitor. In this study, we investigated the effect of NDGA on rat epidermal and hepatic monooxygenase activity and its interaction with rat hepatic microsomal cytochrome P-450. The addition of NDGA to epidermal microsomes prepared from control and 3-methylcholanthrene (3-MC)-pretreated rats and hepatic microsomal preparations from control, 3-MC-pretreated, and phenobarbital (PB)-pretreated rats resulted in a concentration-dependent inhibition of aryl hydrocarbon hydroxylase (AHH) and 7-ethoxyresorufin O-deethylase (ERD) activities. The 50% inhibitory dose for NDGA ranged from 4.1×10^{-5} to 13.1×10^{-5} M for AHH and ERD activities in these microsomal preparations. The addition of NDGA to hepatic microsomes prepared from PB-pretreated rats resulted in spectral changes characterized by absorbance maxima at 380 nm and minima at 414 nm, typical of type I binding difference spectra. It also showed time- and concentration-dependent inhibition of the binding of carbon monoxide to dithionite or NADPH-reduced cytochrome P-450. We speculate that perhaps hydroxyl groups present in NDGA play an important role in inhibiting the monooxygenase activity and suggest that NDGA may have potential as an *antimutagen* and/or anticarcinogen. Furthermore, caution must be exercised in elucidating the role of lipooxygenase in metabolic pathways based solely on the criterion of inhibition by NDGA. Author-abstract.

208

AN 91372113. 91000.

AU Tyrsina-E-G. Rossikhina-O-G. Tyrsin-IuA. Abilev-S-K.
TI `Ascorbyl palmitate--an *antimutagen* with membrane action:.
SO Dokl-Akad-Nauk-SSSR. 1991. 318(4). P 992-4.
JT DOKLADY AKADEMII NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

209

AN 91372089. 91000.
AU Vasileva-I-M. Chekova-V-V. Lvova-G-N. Kusainova-K-A.
Chopikashvili-L-V. Zasukhina-G-D.
TI `The stimulation of DNA repair in workers in contact with cadmium
chloride by vitamins used as *antimutagens:.*
SO Dokl-Akad-Nauk-SSSR. 1991. 318(2). P 441-5.
JT DOKLADY AKADEMII NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

210

AN 91346799. 91000.
AU Umnova-N-V. Michurina-T-L. Smirnova-N-I. Aleksandrova-I-V.
Poroshenko-G-G.
TI `Study of *antimutagenic* properties of bio-ginseng in mammalian cells
in vitro and in vivo:.
SO Biull-Eksp-Biol-Med. 1991 May. 111(5). P 507-9.
JT BIULLETEN EKSPERIMENTALNOI BIOLOGII I MEDITSINY.
PT JOURNAL-ARTICLE (ART).
AB The impact was studied of bio-ginseng produced from ginseng callus
cells on the rate of chromosome rearrangements in Chinese hamster
cells and in continuous tumor cells of mice (Ehrlich strain).
Bio-ginseng reduced rate of spontaneous SCE as well as the level of
mitomycin C-induced chromosome aberrations in Chinese hamster cells.
It protected ascitic tumor cells (Ehrlich strain) against the mutagen
action of urea nitrosomethyl. Author-abstract.

211

AN 91330145. 91000.
AU Llor-X. Jacoby-R-F. Teng-B-B. Davidson-N-O. Sitrin-M-D.
Brasitus-T-A.
IN Pritzker School of Medicine, University of Chicago, Illinois 60637.
TI K-ras mutations in 1,2-dimethylhydrazine-induced colonic tumors:
effects of supplemental dietary calcium and vitamin D deficiency.
SO Cancer-Res. 1991 Aug 15. 51(16). P 4305-9.
JT CANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Recent studies from our laboratory have demonstrated that dietary
supplemental calcium had no significant effect on the incidence of
1,2-dimethylhydrazine-induced colonic tumors, but did decrease the
number of rats with multiple tumors and reduced tumor size.
Moreover, concomitant vitamin D deficiency appeared to abolish these
protective effects of calcium on colonic tumors in this experimental
model. To date, however, the mechanism(s) involved in these

phenomena remain unclear. In order to address these important issues, 1,2-dimethylhydrazine-induced colonic tumors from animals on control, Ca(2+)-supplemented, vitamin D-sufficient, and Ca(2+)-supplemented, vitamin D-deficient diets were examined for the presence of ras oncogene mutations. DNA was extracted from each of these tumors. Targeted areas of K-ras and H-ras genes were amplified by the polymerase chain reaction and analyzed for point mutations using allele-specific oligonucleotide hybridization and subsequent DNA sequencing. The results of these studies demonstrated that: (a) approximately one-third of 1,2-dimethylhydrazine-induced colonic carcinomas in the control group had K-ras G to A mutations; (b) no mutations, however, were detected in the cancers of the calcium-supplemented group; (c) concomitant vitamin D deficiency abolished the *antimutagenic* effect of dietary calcium supplementation (e.g., approximately one-third of cancers in this group again had detectable K-ras mutations); and (d) no H-ras point mutations were detected in colonic tumors from any group. These findings suggest that alterations in K-ras mutations may be one possible mechanism by which calcium and vitamin D status influence colonic carcinogenesis in this experimental model. Author-abstract.

212

AN 91323307. 91000.

AU Kauderer-B. Zamith-H. Paumgartten-F-J. Speit-G.

IN Abteilung Klinische Genetik, Universitat Ulm, Federal Republic of Germany.

TI Evaluation of the mutagenicity of beta-myrcene in mammalian cells in vitro.

SO Environ-Mol-Mutagen. 1991. 18(1). P 28-34.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The genotoxicity of the terpene beta-myrcene was evaluated in mammalian cells in vitro. Myrcene is the major constituent of oil of bay and hop which are used in the manufacture of alcoholic beverages. Myrcene is also present in lemon grass (*Cymbopogon citratus*), a plant widely used in Brazilian folk medicine. Recently, it was shown that myrcene is a very potent analgesic substance and might be an alternative to the already available analgesic drugs. Myrcene was tested up to 1,000 micrograms/ml (limit of solubility) in the presence and absence of S9-mix and did not induce chromosome aberrations and sister chromatid exchanges (SCEs) in human lymphocytes in vitro. Neither the mitotic index nor the proliferation index was influenced by the myrcene treatment. Myrcene did not cause increased mutation frequencies at the hprt-locus in V79-cells. Tests with and without S9-mix revealed negative results. There was no indication for induced cytotoxicity. However, myrcene reduced the SCE-inducing effect of cyclophosphamide in human lymphocytes in a dose dependent manner and also reduced the toxic and mutagenic effect of cyclophosphamide in V79-cells. Under the same test conditions, SCE induction by ethyl methanesulfonate (EMS) and

benzo`a:pyrene (BP) was not significantly influenced by simultaneous myrcene treatment. The in vitro results show that myrcene is not mutagenic in mammalian cells, but has *antimutagenic* properties. The possibility that myrcene exerts its *antimutagenic* activity by inhibiting certain forms of the cytochrome P-450 isoenzymes required for activation of premutagens and precarcinogenes is discussed. Author-abstract.

213

AN 91320395. 91000.

AU Gubitskaia-E-G. Tashenova-A-A. Sinelshchikova-T-A.
Akhmatullina-N-B. Zasukhina-G-D.

TI `Mechanism of the *antimutagenic* effect of interferon in human fibroblasts based on induced protein analysis:.

SO Tsitol-Genet. 1991 Mar-Apr. 25(2). P 55-6.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Proteins induced in human fibroblasts after treatment of some *antimutagens* (interferon, p-aminobenzoic acid, heating and vaccinia virus infection) were identified by means of polyacrylamide gel electrophoresis (10-15%) followed by fluorography of the gel. Influenza virus proteins (A/WSN/33) were used as markers to determine the molecular weights of the new proteins. The results obtained suggest that interferon, p-aminobenzoic acid, heating and vaccinia virus infection induced proteins with mol. weights of 24 and 18 kD except the protein with 76 kD observed only after heating insult. Author-abstract.

214

AN 91310196. 91000.

AU Bhide-S-V. Padma-P-R. Amonkar-A-J.

IN Carcinogenesis Division, Tata Memorial Centre, Parel, Bombay, India.

TI *Antimutagenic* and anticarcinogenic effects of betel leaf extract against the tobacco-specific nitrosamine
4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK).

SO IARC-Sci-Publ. 1991. (105). P 520-4.

JT IARC SCIENTIFIC PUBLICATIONS.

PT JOURNAL-ARTICLE (ART).

AB Earlier studies showed that betel leaf inhibits the mutagenic action of standard mutagens like benzo`a:pyrene and dimethylbenz`a:anthracene. Since tobacco-specific nitrosamines are the major carcinogens present in unburnt forms of tobacco, we studied the effect of an extract of betel leaf on the mutagenic and carcinogenic actions of one of the most potent, 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK). Betel-leaf extract and hydroxychavicol suppressed the mutagenicity of NNK in both the Ames and the micronucleus test. In studies in mice, betel-leaf extract reduced the tumorigenic effects of NNK by 25%. Concurrent treatment with the extract also inhibited the decreases in levels of vitamin A in liver and plasma induced by NNK. Betel leaf

thus has protective effects against the mutagenic, carcinogenic and adverse metabolic effects of NNK in mice. Author-abstract.

215

AN 91286527. 91000.

AU Bodana-A-R. Rao-D-R.

IN Alabama A&M University, Normal 35762.

TI *Antimutagenic* activity of milk fermented by *Streptococcus thermophilus* and *Lactobacillus bulgaricus*.

SO J-Dairy-Sci. 1990 Dec. 73(12). P 3379-84.

JT JOURNAL OF DAIRY SCIENCE.

PT JOURNAL-ARTICLE (ART).

AB *Antimutagenic* activity of acetone or ethylacetate extracts of skim milk fermented by *Streptococcus thermophilus*, *Lactobacillus bulgaricus*, or a combination of both the organisms was studied using *Salmonella typhimurium* (TA 98 and TA 100). Mutagens used were 4-nitroquinoline-N-oxide (a direct-acting mutagen) and 2-aminofluorene (a mutagen requiring S9 activation). Extracts from all fermented milks showed significant (P less than .05) dose response in suppressing the number of revertants caused by NQNO and 2-aminofluorene in both tester strains, whereas extracts from unfermented milk had no effect. Extracts prepared from milk fermented by *L. bulgaricus* plus *S. thermophilus* showed significantly (P less than .05) more *antimutagenic* activity than extracts prepared from milk fermented by *S. thermophilus* alone. Solvent (acetone vs. ethyl acetate) effect was not significant with 4-nitroquinoline-N-oxide as mutagen. However, in the case of 2-aminofluorene, acetone extracts showed significantly (P less than .05) higher *antimutagenic* activity. The results of this and related studies strongly indicate that *antimutagenic* compounds are produced in milk during fermentation by *S. thermophilus* and *L. bulgaricus*. Author-abstract.

216

AN 91266931. 91000.

AU Sato-T. Chikazawa-K. Yamamori-H. Ose-Y. Nagase-H. Kito-H.

IN Department of Public Health, Gifu Pharmaceutical University, Japan.

TI Evaluation of the SOS chromotest for the detection of *antimutagens.*

SO Environ-Mol-Mutagen. 1991. 17(4). P 258-63.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The SOS chromotest was applied for the detection of *antimutagens.* To raise SOS induction, the bacteria were treated with the mutagens, UV, 4-nitroquinoline N-oxide (4NQO), N-methyl-N'-nitro-N-nitroso-guanidine (MNNG), or benzo`a:pyrene (B`a:p). The inhibitory effects of L-ascorbic acid, glutathione, vanillin, 5-fluorouracil (5-FU), 5-chlorouracil (5-CU), cobaltous chloride, sodium selenite and sodium arsenite, which are known as *antimutagens,* were investigated with their addition either simultaneously or post treatment time. It became clear that the SOS

chromotest was very useful for the detection of *antimutagens.*
Author-abstract.

217

AN 91266685. 91000.

AU Filippov-V-D.

TI `The *antimutagenic* action of amino acids on UV-irradiated E. coli cells: the demonstration of the existence of metabolic regulation of the *antimutagenic* activity:.

SO Dokl-Akad-Nauk-SSSR. 1990. 315(1). P 222-5.

JT DOKLADY AKADEMII NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

218

AN 91246582. 91000.

AU Tadi-P-P. Teel-R-W. Lau-B-H.

IN Department of Biology, Graduate School, Loma Linda University, CA 92350.

TI Organosulfur compounds of garlic modulate mutagenesis, metabolism, and DNA binding of aflatoxin B1.

SO Nutr-Cancer. 1991. 15(2). P 87-95.

JT NUTRITION AND CANCER.

PT JOURNAL-ARTICLE (ART).

AB The effects of two organosulfur compounds of garlic (ajoene and diallyl sulfide) and a crude garlic extract on aflatoxin B1 (AFB1)-induced mutagenesis were determined using rat liver 9,000 g supernatant (S-9) as the activation system and Salmonella typhimurium TA-100 as the tester strain. The effects of these compounds on AFB1 binding to calf thymus DNA were also measured. Metabolites of AFB1 were isolated and analyzed by reverse-phase high-performance liquid chromatography. All these compounds inhibited S-9-dependent mutagenesis induced by AFB1. They also inhibited AFB1 binding to DNA. A significant decrease in organo-soluble metabolites of AFB1 was observed with ajoene and garlic extract. An increase of glucuronide and glutathione conjugates was obtained with garlic extract. The results indicate that garlic compounds tested in this study are *antimutagenic* and, potentially, anticarcinogenic.
Author-abstract.

219

AN 91240757. 91000.

AU Makedonov-G-P. Chekova-V-V. Yakubovskaya-E-L. Zasukhina-G-D.

IN N.I. Vavilov Institute of General Genetics, USSR Academy of Sciences, Moscow.

TI Modification of DNA repair by human interferons.

SO Acta-Biol-Hung. 1990. 41(1-3). P 187-97.

JT ACTA BIOLOGICA HUNGARICA.

PT JOURNAL-ARTICLE (ART).

AB We have found a new biological function of interferons, namely, their capacity to protect human cells from the action of some physical and

chemical mutagens. To evaluate the protective effect of interferons the following criteria were applied: formation of sister chromatid exchanges (SCE) and chromosomal aberrations (CA), as well as viability of cells and intensity of DNA repair synthesis. Pretreatment of cells with natural interferon decreased the number of sister chromatid exchanges and chromosomal aberrations, induced by different mutagens, and increased the intensity of DNA repair synthesis. This is attributed to the ability of interferon to enhance certain phases of DNA repair. In the case of photomutagenic action of 8-methoxypsoralen (8-MOP) on the lymphocytes, when monoadducts (MA) only, or both monoadducts and interstrand cross-links (ICL) are formed, the *antimutagenic* effect of interferon is exhibited only with respect to ICL. Unlike the natural interferon, the recombinant alpha 2-interferon failed to have any effect on the lymphocytes of clinically healthy donors exposed to gamma-radiation. In the repair- deficient cells (Marfan's syndrome) the protection of natural interferon against the action of 4-nitroquinoline-1'-oxide and gamma- radiation was found to be reduced significantly and that of alpha 2-interferon was not manifested at all. Thus, the capacity of interferons to alter the DNA repair, conceivably, depends on the type of interferon and on the cell genotype. Author-abstract.

220

AN 91238887. 91000.

AU Mukherjee-A. Agarwal-K. Aguilar-M-A. Sharma-A.

IN Department of Botany, University of Calcutta, India.

TI Anticlastogenic activity of beta-carotene against cyclophosphamide in mice in vivo.

SO Mutat-Res. 1991 May. 263(1). P 41-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB beta-Carotene (BC), a natural food colourant and an antioxidant, acts as an *antimutagen/anticarcinogen* in several test systems. The anticlastogenic activity of BC against cyclophosphamide (CP) was studied in bone marrow cells of mice in vivo. Seven days' oral priming with BC (2.7 and 27 mg/kg b.w.) followed by an acute treatment with cyclophosphamide (25 mg/kg b.w.; i.p.) inhibited clastogenicity. The values of chromosomal aberrations and micronucleated polychromatic erythrocytes were consistently lower than the sum of the expected values of BC and CP given individually. This antagonistic response indicates anticlastogenic activity of BC against CP. Author-abstract.

221

AN 91235179. 91000.

AU Gali-H-U. Perchellet-E-M. Perchellet-J-P.

IN Anti-Cancer Drug Laboratory, Kansas State University, Manhattan 66506.

TI Inhibition of tumor promoter-induced ornithine decarboxylase activity

by tannic acid and other polyphenols in mouse epidermis in vivo.

SO Cancer-Res. 1991 Jun 1. 51(11). P 2820-5.

JT CANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Naturally occurring plant phenols with *antimutagenic* and anticarcinogenic activities were tested for their abilities to inhibit the ornithine decarboxylase (ODC) response linked to skin tumor promotion by 12-O-tetradecanoylphorbol-13-acetate (TPA). Topical applications of tannic acid (TA) inhibit remarkably and in a dose-dependent manner TPA-induced ODC activity in mouse epidermis in vivo. This inhibitory effect of TA is dependent on the time of its administration relative to TPA. The induction of epidermal ODC activity by 8.5 nmol of TPA is inhibited maximally when 20 μ mol of TA are applied topically to the skin 20 min before the tumor promoter. Gallic acid and several of its derivatives inhibit the ODC response to TPA to a lesser degree than TA. Ellagic acid is the least effective inhibitor tested. TA also inhibits the ODC-inducing activities of several structurally different tumor promoters and the greater ODC responses produced by repeated TPA treatments. The ability of TA to inhibit by 85% the ODC marker of skin tumor promotion suggests that TA and other polyphenols may be effective not only against tumor initiation and complete carcinogenesis but also against the promotion phase of tumorigenesis. Author-abstract.

222

AN 91232542. 91000.

AU Hartwig-A. Snyder-R-D. Schlepegrell-R. Beyersmann-D.

IN Department of Biology and Chemistry, University of Bremen, F.R.G.

TI Modulation by Co(II) of UV-induced DNA repair, mutagenesis and sister-chromatid exchanges in mammalian cells.

SO Mutat-Res. 1991 May. 248(1). P 177-85.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB In bacterial test systems, Co(II) has been shown to be *antimutagenic* in combination with several chemical and physical agents. To investigate whether such modulations also apply to mammalian cells, the effect of Co(II) on UV-induced mutagenesis, sister-chromatid exchanges as well as DNA damage and its removal was determined. Co(II) itself is weakly mutagenic at the HPRT locus and increases the frequency of sister-chromatid exchanges. Additionally, at both endpoints the metal ions enhance the genotoxicity of UV light. To discriminate between an enhancement of DNA damage and an interference with repair processes, the number of pyrimidine cyclobutane dimers was determined by HPLC. While the induction of these DNA lesions is not affected by Co(II), their removal is inhibited at concentrations of 75 μ M Co(II) and higher. Analysis of the kinetics of strand-break induction and closure after UV irradiation by nucleoid sedimentation reveals an accumulation of strand breaks in the presence of Co(II). This indicates that either the polymerization or the ligation step in excision repair is affected. Since similar

interactions with the processing of UV-induced DNA damage have been observed with other carcinogenic and/or mutagenic metal ions, this appears to be a common mechanism of metal genotoxicity.
Author-abstract.

223

AN 91226450. 91000.

AU Rita-P. Geetanjali-D. Reddy-P-P.

IN Institute of Genetics, Osmania University, Begumpet, Hyderabad, India.

TI Effect of glutathione on mitomycin C-induced micronuclei in bone marrow erythrocytes of Swiss albino mice.

SO Mutat-Res. 1991 May. 260(1). P 131-5.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* potential of glutathione (GSH) on mitomycin C (MMC)-induced micronuclei was evaluated in Swiss albino mice using the in vivo bone marrow micronucleus test. Six groups of animals were maintained simultaneously. The first group received distilled water only, the second group of animals received 2 mg/kg MMC and the third group was administered 4 doses of GSH, i.e., 20, 40, 80 and 160 mg/kg. The fourth group of animals received GSH and MMC simultaneously. The fifth and sixth groups received a cumulative dose of GSH followed by MMC after 24 h. The fifth group of animals were killed 6 h after the administration of MMC, while the sixth group were killed 24 h after the administration of MMC. The results clearly show a statistically significant increase in micronuclei in MMC-treated animals and also in animals that received GSH followed by MMC. However, there was a decrease in micronuclei in animals that received GSH and MMC simultaneously. The results clearly indicate that GSH exhibits an *antimutagenic* property in the presence of MMC. It is also observed the treatment with GSH prior to MMC does have some protective effect. Author-abstract.

224

AN 91204008. 91000.

AU Renner-H-W. Munzner-R.

IN Institute of Hygiene and Toxicology, Federal Research Centre for Nutrition, Karlsruhe F.R.G.

TI The possible role of probiotics as dietary *antimutagen.*

SO Mutat-Res. 1991 Apr. 262(4). P 239-45.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Possible *antimutagenic* actions of probiotics--mainly lactic acid bacteria--were examined using in vitro and in vivo test systems. In the Ames test with Salmonella typhimurium TA1538 beef extract and nitrosated beef extract were used as mutagens. L. casei showed high *antimutagenic* activity on mutagenicity induced by nitrosated beef extract only without S9 mix, whereas Omniflora (a lyophilized preparation of lactobacilli and E. coli) and its cell-free culture

broth exhibited *antimutagenic* action only on beef extract. The actions of probiotics were more homogeneous when living animals were used in the tests. Using busulfan as a mutagen both the chromosome aberration test (with Chinese hamster bone marrow cells) and the micronucleus test (with bone marrow cells of Chinese hamsters and mice) showed strong anticlastogenic action when *L. casei*, *Omniflora* or yoghurt (with living bifidobacteria) were given orally at the same time as the mutagen. Lactobacilli were effective also after i.p. injection. Cell-free culture broths had no or only weak *antimutagenic* effects. Mutagen-induced chromosome aberrations and micronuclei were reduced by up to 80% by the lactobacilli. Author-abstract.

225

AN 91177321. 91000.

AU Filippov-V-D. Lotareva-O-V.

TI `Increase in the fraction of non-repaired mutations in *Escherichia coli* cells, incubated in the absence of glucose after UV-irradiation:.

SO Genetika. 1990 Sep. 26(9). P 1679-81.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB In *E. coli* WP2 *trpE65* cells irradiated with UV-dose of 11 J/m², the additional small portion of induced Trp⁺ mutations became resistant to photoreactivation or "dark" (excision) repair after a short-termed (10-30 min) postirradiation incubation of bacteria in a minimal medium deprived of glucose and tryptophan. Since protein synthesis could not proceed in those cells because of the lack of energy and tryptophan, the data indicate that an unknown mechanism exists which imparts some mutations with the resistance to *antimutagenic* repair in the absence of the inducible mutagenic system. In the light of this result, one could suggest that the normal process of mutation fixation (that is the loss of sensitivity of mutations to photoreactivation or to excision repair in cells incubated in growth medium after irradiation) should not necessarily be a direct consequence of manifestation of the activity of an inducible mutagenic system. Author-abstract.

226

AN 91163570. 91000.

AU Plewa-M-J. Smith-S-R. Wagner-E-D.

IN Institute for Environmental Studies, University of Illinois, Urbana-Champaign 61801.

TI Diethyldithiocarbamate suppresses the plant activation of aromatic amines into mutagens by inhibiting tobacco cell peroxidase.

SO Mutat-Res. 1991 Mar. 247(1). P 57-64.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Diethyldithiocarbamate is an *antimutagen* and repressed the activation of promutagens by plant systems. Earlier work implicated the

involvement of tobacco cell (TX1) peroxidases in the plant cell activation of aromatic amines. We now present data that diethyldithiocarbamate represses the activation of 2-aminofluorene and m-phenylenediamine by inhibiting intracellular TX1 peroxidases under in vivo conditions. Concentrations of diethyldithiocarbamate that caused a 50% repression of TX1 cell activation of 2-aminofluorene and m-phenylenediamine also induced a 50% inhibition of TX1 cell peroxidase activity. Diethyldithiocarbamate in a concentration range between 25 and 500 microM directly inhibited peroxidase activity in TX1 cell homogenates in a concentration-dependent manner. Similar results were observed with purified horseradish peroxidase. The kinetics of peroxidase activity were studied in homogenates from control cells and cells treated with 750 microM and 25 mM diethyldithiocarbamate. There was no significant difference among the Km values among the three groups with a mean (+/- standard error) Km of 2.58 +/- 0.23 mM. However, the Vmax differed from 4.02 to 2.12 nmoles tetraguaiacol/min/micrograms protein, in the control and in the 25 mM diethyldithiocarbamate treatment group, respectively. These data indicate that diethyldithiocarbamate is a non-competitive inhibitor of TX1 cell peroxidase. Author-abstract.

227

AN 91138192. 91000.

AU Wang-Z-Y. Agarwal-R. Zhou-Z-C. Bickers-D-R. Mukhtar-H.

IN Department of Dermatology, Case Western Reserve University, Cleveland, OH.

TI Inhibition of mutagenicity in Salmonella typhimurium and skin tumor initiating and tumor promoting activities in SENCAR mice by glycyrrhetic acid: comparison of 18 alpha- and 18 beta-stereoisomers.

SO Carcinogenesis. 1991 Feb. 12(2). P 187-92.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Licorice has been used as medicine and as sweetening agent in food products. The major water-soluble constituent of licorice is glycyrrhizin (GL), an oleanane triterpenoid, which is known to be partly hydrolyzed by glucuronidase to its aglycone glycyrrhetic acid (GA) which exists in 18 alpha (alpha-GA) and 18 beta (beta-GA) stereoisomeric forms. In this study alpha-GA and beta-GA were found to inhibit the mutagenicity of benzo(a)pyrene (B(a)P), 2-aminofluorene and aflatoxin B1 in Salmonella typhimurium TA98 and TA100. beta-GA was more effective than alpha-GA as an *antimutagen.* In the two-stage skin tumorigenesis protocol using 7,12-dimethylbenz(a)anthracene (DMBA) as the tumor initiating agent followed by twice weekly applications of 12-O-tetradecanoylphorbol-13-acetate as tumor promoter, pretreatment of SENCAR mice with alpha-GA or beta-GA resulted in significant protection against tumor initiation as well as tumor promotion. As an anti-tumor initiating agent, beta-GA was found to be more

effective than alpha-GA. Similarly, topical application of beta-GA was found to be more effective than alpha-GA in inhibiting the binding of both $^3\text{H}:\text{B}^{\text{a}}:\text{P}$ and $^3\text{H}:\text{DMBA}$ to epidermal DNA. However, as an anti-tumor promoter, alpha-GA and beta-GA showed comparable effects. Our results suggest that both alpha-GA and beta-GA possess substantial anti-skin tumor initiating and anti-skin tumor promoting activities. Author-abstract.

228

AN 91110467. 91000.

AU Ejchart-A. Chopkiewicz-B. Czarnomska-A. Koziorowska-J.

IN Institute for Drug Research and Control, Warszawa, Poland.

TI Effects of riboflavin on benzo(a)pyrene, 2-acetylaminofluorene and methyl methanesulfonate mutagenicity in vitro.

SO Pol-J-Pharmacol-Pharm. 1990 Mar-Apr. 42(2). P 159-64.

JT POLISH JOURNAL OF PHARMACOLOGY AND PHARMACY.

PT JOURNAL-ARTICLE (ART).

AB Riboflavin was shown to inhibit mutagenicity of benzo(a)pyrene and 2-acetylaminofluorene in the presence of S9 liver fractions deriving from B10.A mice as well as from DBA/2 mice and had no influence on mutagenicity of methyl methanesulfonate. The above findings confirm the supposition that antimutagenicity of riboflavin results from its interaction with enzymes responsible for metabolic activation of promutagens. The *antimutagenic* effects of riboflavin were more drastic in the presence of liver fractions from B10.A mice than in the presence of those from DBA/2 mice. Author-abstract.

229

AN 91109807. 91000.

AU Imanishi-H. Sasaki-Y-F. Ohta-T. Watanabe-M. Kato-T. Shirasu-Y.

IN Institute of Environmental Toxicology, Tokyo, Japan.

TI Tea tannin components modify the induction of sister-chromatid exchanges and chromosome aberrations in mutagen-treated cultured mammalian cells and mice.

SO Mutat-Res. 1991 Jan. 259(1). P 79-87.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The modifying effects of tannin components extracted from green tea and black tea on mutagen-induced SCEs and chromosome aberrations were studied. These tannin components did not affect spontaneous SCEs and chromosome aberrations in cultured Chinese hamster cells. The frequency of SCEs and chromosome aberrations induced by mitomycin C (MMC) or UV was enhanced by the posttreatment with tea tannin components. When cells were post-treated with tea tannin components in the presence of metabolic enzymes of rat liver (S9 mix), the modifying effects on the induction of SCEs and chromosome aberrations by mutagens were complicated. MMC- and UV-induced SCEs and chromosome aberrations were suppressed by the posttreatment with tea tannin components at low concentrations (less than or equal to 6.7 micrograms/ml) with S9 mix. At a high concentration of tea tannin

components (20 micrograms/ml) with S9 mix, a co-mutagenic effect was observed. The modifying effects of tea tannin components were shown to occur in the G1 phase of the cell cycle. In cells from a patient with xeroderma pigmentosum (XP) and a normal human embryo, MMC-induced SCEs were suppressed by the posttreatment with tea tannin components in the presence of S9 mix, and enhanced in the absence of S9 mix. On the other hand, tea tannin components modified SCE frequencies in UV-irradiated normal human cells but not in UV-irradiated XP cells. Our results suggested that tea tannin components themselves inhibited DNA-excision repair and resulted in a co-mutagenic effect, while in the presence of S9 mix metabolites of tea tannin components promoted DNA-excision repair activity and resulted in an *antimutagenic* effect. MMC-induced chromosome aberrations in mouse bone marrow cells were suppressed by the pretreatment with green tea and black tea tannin mixture. Author-abstract.

230

AN 91107934. 91000.

AU Bakhitova-L-M. Pashin-IuV. Drobchenko-S-N. Bondarev-G-N.

TI `The *antimutagenic* activity of compounds of modified polyglucin:.

SO Izv-Akad-Nauk-SSSR `Biol:. 1990 Jul-Aug. (4). P 625-8.

PT JOURNAL-ARTICLE (ART).

AB The effect of modified polygluquin compounds on gamma-irradiated nuclei of V-79 Chinese hamster cells has been studied. *Antimutagenic* properties of the compounds are determined by aldehyde groups and oxidized chains. Author-abstract.

231

AN 91106586. 91000.

AU Fischer-Rasmussen-W. Kjaer-S-K. Dahl-C. Asping-U.

IN Department of Obstetrics and Gynaecology, Hvidovre Hospital, University of Copenhagen, Denmark.

TI Ginger treatment of hyperemesis gravidarum `see comments:.

SO Eur-J-Obstet-Gynecol-Reprod-Biol. 1991 Jan 4. 38(1). P 19-24.

JT EUROPEAN JOURNAL OF OBSTETRICS, GYNECOLOGY, AND REPRODUCTIVE BIOLOGY.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART).

RANDOMIZED-CONTROLLED-TRIAL (RCT).

AB Thirty women participated in a double-blind randomized cross-over trial of the efficacy of a natural product, the powdered root of ginger (*Zingiber officinale*), and placebo in hyperemesis gravidarum. Three patients had to be withdrawn. Each woman swallowed capsules containing either 250 mg ginger or lactose q.i.d. during the first 4 days of the treatment period. Interrupted by a 2 days wash-out period the alternative medication was given in the second 4-day period. The severity and relief of symptoms before and after each period were evaluated by two scoring systems. The scores were used for statistical analyses of possible differences. Subjectively assessed, 19 women (70.4%) stated preference to the period in which ginger, as was later disclosed, had been given ($P = 0.003$). More

objectively assessed by relief scores a significantly greater relief of the symptoms was found after ginger treatment compared to placebo ($P = 0.035$). No side effects were observed. The possible mutagenic and *antimutagenic* characters of ginger reported in a study of *E. coli* have not been evaluated with respect to any significance in humans. Powdered root of ginger in daily doses of 1 g during 4 days was better than placebo in diminishing or eliminating the symptoms of hyperemesis gravidarum. Author-abstract.

232

AN 91106291. 91000.

AU Makedonov-G-P. Iakubovskaia-E-L. Zasukhina-G-D.

TI `The differential effect of the *antimutagenic* action of interferons in relation to primary DNA damages: the genetic risk of 8-methoxypsoralen monoadducts is greater than that of interstrand DNA crosslinks:.

SO Dokl-Akad-Nauk-SSSR. 1990. 314(3). P 732-5.

JT DOKLADY AKADEMII NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

233

AN 91101640. 91000.

AU Yoshida-Y.

IN Osaka Prefectural Institute of Public Health, Nakamichi-1, Japan.

TI Study on mutagenicity and antimutagenicity of BHT and its derivatives in a bacterial assay.

SO Mutat-Res. 1990 Nov. 242(3). P 209-17.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The mutagenicity of butylated hydroxytoluene (BHT) and its derivatives was investigated by the Ames method using *Salmonella typhimurium* TA98 and TA100 with or without S9 mix. The compounds were not mutagenic in either indicator strain at concentrations ranging from 50 to 330 micrograms/plate (SQ: 3,5,3',5'-tetra-tert-butylstilbenequinone; VI-III: unidentified), 500 micrograms/plate (BE: 3,5,3',5'-tetra-tert-4,4'-dihydroxy-1,2-diphenylethylene; VI: 2,6-di-tert-butyl-4-methyl-4-tert-butylperoxy-2,5-cyclohexadienone; VI-I: unidentified; VI-II: 3-acetyl-2,5-di-tert-cyclopenta-2,4-dienone) and 1000 micrograms/plate (BHT). The *antimutagenic* effects of BHT and its derivatives on mutagenesis by chemical agents were investigated in *Salmonella typhimurium* TA98 and TA100 and *Escherichia coli* WP-2 hcr-. VI-II suppressed the mutagenesis induced in TA98 and TA100 by 2-(2-furyl)-3-(5-nitro-2-furyl) acrylamide (AF-2) and that induced in WP-2 hcr- by 4-nitroquinoline-1-oxide (4NQO) without decreasing cell viability. In WP-2 hcr-, the mutagenesis induced by AF-2 and ethyl methanesulfonate was also suppressed significantly. Mutations induced by methyl methanesulfonate were slightly inhibited. However, VI-II had no effect on the mutagenesis induced by

N-methyl-N'-nitro-N-nitrosoguanidine. Author-abstract.

234

AN 91097698. 91000.
AU Liu-D. Yin-X. Wang-H. Zhou-Y. Zhang-Y.
IN Laboratory of Medical Genetics, Western Region Hospital, Urumqi.
TI `Antimutagenicity screening of water extracts from 102 kinds of Chinese medicinal herbs:.
SO Chung-Kuo-Chung-Yao-Tsa-Chih. 1990 Oct. 15(10). P 617-22, 640.
JT CHUNG-KUO CHUNG YAO TSA CHIH CHINA JOURNAL OF CHINESE MATERIA MEDICA.
PT JOURNAL-ARTICLE (ART).
AB Our observation shows that out of 102 kinds of Chinese medicinal herbs tested, 17 have remarkable *antimutagenic* effect on the mutation induced by aflatoxin B1, in Ames test. Among the 17 herbs Glycyrrhiza uralensis, Bupleurm chinense, Portulaca grandiflora and Cnidium monnieri have been found in other tests to be effective against mutagenesis induced by cyclophosphamide in mice.
Author-abstract.

235

AN 91094935. 91000.
AU Chorvatovicova-D. Ginter-E. Kosinova-A. Zloch-Z.
IN Institute of Experimental Biology and Ecology, Slovak Academy of Sciences, Bratislava, Czechoslovakia.
TI Effect of vitamins C and E on toxicity and mutagenicity of hexavalent chromium in rat and guinea pig.
SO Mutat-Res. 1991 Jan. 262(1). P 41-6.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The effect of simultaneous pretreatment with vitamins C and E on the toxicity and mutagenicity of K2Cr2O7 in rats and guinea pigs was evaluated. Dietary pretreatment of Cr(VI)-intoxicated rats with ascorbic acid or alpha-tocopherol normalized vitamin C levels in lungs but not in kidneys. The synergistic preventive effect of both vitamins was confirmed in the production of lipoperoxides in Cr(VI)-intoxicated rats. Simultaneous administration of vitamins C and E in guinea pigs prevented the decrease of vitamin C levels provoked by the oxidative effects of Cr(VI). The results of the micronucleus test in bone marrow showed that it was vitamin C that caused the *antimutagenic* effect against bichromate, in both rats and guinea pigs. The effect of vitamin E was demonstrated only in an increase of the ratio of NCE to PCE, i.e., in a decrease of the cytotoxic but not the mutagenic effects of hexavalent chromium.
Author-abstract.

236

AN 91094932. 91000.
AU Warner-J-R. Nath-J. Ong-T-M.
IN Center for Life Sciences and Toxicology, Research Triangle Institute, Research Triangle Park, NC 27709-2194.

TI Antimutagenicity studies of chlorophyllin using the Salmonella arabinose-resistant assay system.
 SO Mutat-Res. 1991 Jan. 262(1). P 25-30.
 JT MUTATION RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 AB Studies with the arabinose-resistant Salmonella forward mutation assay system were performed to determine the *antimutagenic* activity of chlorophyllin against the mutagenic activity of aflatoxin B1 (AFB1), 2-aminoanthracene (2AA), benzo`a:pyrene (BaP), N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) and solvent extracts of coal dust (CD), diesel emission particles (DE), airborne particles (AP), tobacco snuff (TS), black pepper (BP) and red wine (RW). Various concentrations of each chemical and complex mixture extract were assayed for mutagenic activity with and/or without S9 in a preincubation test. One concentration of each chemical and complex mixture extract was then tested with various concentrations of chlorophyllin. Results showed that chlorophyllin, at concentrations of 2.5 mg/plate or less, completely or almost completely inhibited the mutagenicity of 2AA, AFB1, BaP, MNNG and solvent extracts of CD, DE and RW. With concentrations from 1.25 to 5 mg/plate, chlorophyllin inhibited over 50% of the mutagenicity of AP, TS and BP extracts. These results further substantiate the *antimutagenic* efficacy of chlorophyllin against chemicals and complex mixtures. Author-abstract.

237

AN 91094917. 91000.
 AU Iwado-H. Naito-M. Hayatsu-H.
 IN Okayama Prefectural Institute for Environmental Science and Public Health, Japan.
 TI Mutagenicity and antimutagenicity of air-borne particulates.
 SO Mutat-Res. 1991 Jan. 246(1). P 93-102.
 JT MUTATION RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 AB A methanol extract of air-borne particulates collected in a suburban area of Okayama City showed not only mutagenicity but also antimutagenicity in the Ames test. Thus, when the mutagenicity of this preparation in Salmonella typhimurium TA98 (with metabolic activation) was measured, we observed that the dose response reached a plateau at 27 m3 air equivalent of the particulate, showing approximately equal numbers of revertants in the dose range 27-270 m3 equivalent. This plateau formation was not seen in the dose response of a blue-cotton extract of this preparation: the extract gave a linearly increasing dose response up to 270 m3 equivalent. This finding suggests that some factors that inhibit the mutagenicity were present in this methanol extract and that these inhibitors were not adsorbable to blue cotton, an adsorbent selective for compounds having 3 or more fused rings. From the portion unadsorbed to blue cotton, we isolated the *antimutagenic* factors and identified them as long-chain fatty acids: palmitic, stearic, oleic and linoleic acids.

Analysis of several samples, including those from other parts of Japan, has suggested that these *antimutagenic* fatty acids are ubiquitous in air-borne particulates. Author-abstract.

238

AN 91085625. 91000.

AU Chow-C-K.

IN Department of Nutrition and Food Science, University of Kentucky, Lexington 40506.

TI Mutagenesis and micronutrients relationship.

SO Food-Addit-Contam. 1990. 7 Suppl 1. P S44-7.

JT FOOD ADDITIVES AND CONTAMINANTS.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Several micronutrients have been reported to be mutagenic or co-mutagenic in certain in vitro testing systems. However, micronutrients have not been shown to be mutagenic or co-mutagenic in vivo, or at physiological concentrations in vitro. Most of the mutagenic or co-mutagenic effects of micronutrients observed in vitro can be attributed to their involvement in the generation of oxygen radicals. Many micronutrients have been shown to possess anti-mutagenic or *co-antimutagenic* activity in vitro and in vivo. This property of micronutrients appears to be linked to their specific and interrelated biochemical functions. Author-abstract. 16 Refs.

239

AN 91077018. 91000.

AU Namiki-M.

IN Department of Brewing and Fermentation, Tokyo University of Agriculture, Japan.

TI *Antioxidants/antimutagens* in food.

SO Crit-Rev-Food-Sci-Nutr. 1990. 29(4). P 273-300.

JT CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB 203 Refs.

240

AN 91020594. 91000.

AU Polianskaia-G-G. Semenova-E-G. Shubin-N-A.

TI `The effect of cryopreservation on the cytogenetic characteristics of a cell subline of skin fibroblasts from the Indian muntjac:.

SO Tsitologiia. 1990. 32(3). P 256-65.

JT TSITOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB After thawing cells, previously cryopreserved in the presence of dimethyl sulfoxide (DMSO), a decrease in their viability and increase in unscheduled DNA synthesis was observed. In 7 days, these parameters restored to the control level. Cryopreservation without DMSO resulted in the decrease in both cell viability and replicative and unscheduled DNA synthesis. In 14 days, these characteristics

were seen to return to the normal level. Cryopreservation of cells without DMSO and their preservation in liquid nitrogen induced the frequency of chromosomal aberrations, mostly chromosomal breaks. The frequency of chromosomal aberrations increased with the duration of cell preservation in liquid nitrogen. The normal level was achieved following 7 days after cell thawing. Cells treated with DMSO only (without cryopreservation) display an increased number of chromosomal and chromatid breaks and translocations. Nonrandom distribution of chromosomal aberrations was observed, with particular chromosomes being involved in the appearance of dicentrics and translocations. The data obtained indicate that cryoprotective activity of DMSO is probably associated with the cell repair systems. The detected *antimutagenic* and mutagenic activity of DMSO may presumably reflect various conditions for its interaction with cells (with or without cryopreservation), as well as it may be specific for the muntjac cell line used in the present work. Author-abstract.

241

AN 91017804. 91000.
AU Osawa-T. Kumon-H. Namiki-M. Kawakishi-S. Fukuda-Y.
IN Department of Food Science & Technology, Nagoya University, Japan.
TI *Antimutagenic* heat stable antioxidants.
SO Prog-Clin-Biol-Res. 1990. 347. P 223-38.
JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 40 Refs.

242

AN 91017802. 91000.
AU Aeschbacher-H-U.
IN Nestec Ltd., Nestle Research Centre, Lausanne, Switzerland.
TI *Antimutagenic/anticarcinogenic* food components.
SO Prog-Clin-Biol-Res. 1990. 347. P 201-16.
JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 58 Refs.

243

AN 91015194. 91000.
AU Yokoiyama-A. Kada-T. Kuroda-Y.
IN Department of Induced Mutation, National Institute of Genetics, Shizuoka, Japan.
TI *Antimutagenic* action of cobaltous chloride on radiation-induced mutations in cultured Chinese hamster cells.
SO Mutat-Res. 1990 Oct. 245(2). P 99-105.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The effects of cobaltous chloride on 8-azaguanine (8AG)-resistant mutations induced by gamma-rays or ultraviolet (UV) light in cultured Chinese hamster V79 cells were examined. Cobaltous chloride alone

had no significant effects on survival and mutations of V79 cells at concentrations less than 1×10^{-5} M. Cobaltous chloride at a concentration of 3×10^{-6} M had a marked effect in reducing 8AG-resistant mutations induced by gamma-rays of 2-6 Gy, when cells were incubated for 6-7 days in the presence of cobaltous chloride after gamma-ray irradiation (posttreatment). The pretreatment of cells with cobaltous chloride for 6 days before gamma-ray irradiation reduced 8AG-resistant mutations induced by gamma-rays. Pre- or post-treatment with cobaltous chloride had no such effect on UV-induced mutations, however. The difference in responsiveness to cobaltous chloride between bacterial and mammalian cell systems is discussed. Author-abstract.

244

AN 91015189. 91000.

AU Kroese-E-D. Zeilmaker-M-J. Mohn-G-R. Meerman-J-H.

IN Laboratory of Carcinogenesis and Mutagenesis, National Institute of Public Health and Environmental Protection, Bilthoven, The Netherlands.

TI Preventive action of thioethers towards in vitro DNA binding and mutagenesis in *E. coli* K12 by alkylating agents.

SO Mutat-Res. 1990 Oct. 245(2). P 67-74.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Thioethers are effective scavengers of electrophilic metabolites derived from the hepatocarcinogen N-hydroxy-2-acetylaminofluorene (van den Goorbergh et al., 1987). In this study 2 of these thioethers, 4-(methylthio)benzoic acid (MTB) and its methylester, methyl 4-(methylthio)benzoate (MMTB), have been tested for their ability to prevent in vitro DNA binding and mutation induction in *E. coli* K12 by the direct alkylating agents ethylnitrosourea (ENU), methylnitrosourea (MNU), ethyl methanesulfonate (EMS) and methyl methanesulfonate (MMS). In addition to MTB and MMTB, the thioether L-methionine (Met), and the thiols glutathione (GSH) and L-cysteine (Cys) were included for reasons of comparison. MTB was able to (partially) prevent DNA binding and mutation induction by ENU. However, this thioether was ineffective with EMS. DNA binding and mutagenesis by EMS were (partially) prevented by GSH and Cys, while these thiols could not prevent DNA binding and mutation induction by ENU. MMTB was unable to prevent mutation induction by these ethylating agents. With the methylating agents, similar effects of MTB were observed: MTB effectively prevented mutation induction by MNU while it was much less effective towards MMS. GSH and Cys were comparably effective as *antimutagenic* agents towards both methylating agents. Met was unable to prevent either DNA binding or mutation induction by these agents. Taken together, the results show that aromatic thioethers are able to trap genotoxic electrophiles derived from the nitrosoureas ENU and MNU, and may therefore act as potential anticarcinogens towards these agents, which are only poorly detoxified by GSH. Author-abstract.

245

AN 90376982. 90000.
AU Pons-F-W. Muller-P.
IN Institut fur Mikrobiologie, J. W. Goethe-Universitat,
Frankfurt-am-Main, FRG.
TI Strong *antimutagenic* effect of caffeine on 9-aminoacridine-induced
frameshift mutagenesis in Escherichia coli K12.
SO Mutagenesis. 1990 Jul. 5(4). P 363-6.
JT MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).
AB Caffeine, present at a concentration of 3 mg/ml during treatment with
100 microM 9-aminoacridine (9AA) of wild-type Escherichia coli K12,
caused a decrease in the yield of frameshift reversions of more than
three orders of magnitude. Antimutagenesis of caffeine was shown to
be due to partial inhibition of induction by 9AA of frameshift
replication errors, resulting in an increased efficiency of mismatch
repair of the pre-mutations produced under these conditions.
Author-abstract.

246

AN 90376980. 90000.
AU Elias-R. De-Meo-M. Vidal-Ollivier-E. Laget-M. Balansard-G.
Dumenil-G.
IN Laboratoire de Pharmacognosie, Faculte de Pharmacie, Marseille,
France.
TI *Antimutagenic* activity of some saponins isolated from Calendula
officinalis L., C. arvensis L. and Hedera helix L.
SO Mutagenesis. 1990 Jul. 5(4). P 327-31.
JT MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).
AB Thirteen saponins were isolated and identified from Calendula
officinalis, C. arvensis and Hedera helix. Mutagenic and
antimutagenic activities of these products were investigated using a
modified liquid incubation technique of the Salmonella/microsomal
assay. The Salmonella tester strain TA98 +/- S9 mix was used.
Screening of the *antimutagenic* activity was performed with a known
promutagen: benzo-`a:pyrene (BaP) and a mutagenic urine concentrate
from a smoker (SU). *Antimutagenic* activities were also compared with
the activity of chlorophyllin. All the saponins were found to be
non-toxic and non-mutagenic for doses of 400 micrograms.
Chlorophyllin inhibited the mutagenic activities of BaP (1 microgram)
and SU (5 microliters) in a dose-dependent manner. The four saponins
from C. arvensis and the three saponins from H. helix showed
antimutagenic activity against BaP (1 microgram) and SU (5
microliters) with a dose-response relationship. The possible
mechanism of the *antimutagenic* activity of saponins is discussed.
Author-abstract.

247

AN 90363877. 90000.

AU Zuoshu-J-S. Linghua-W-H. Zhongfu-C-F.

IN Department of Biology, Second Military Medical University, Shanghai, China.

TI *Antimutagenic* effects of Chinese medicines.

SO Prog-Clin-Biol-Res. 1990. 340E. P 329-38.

JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.

PT JOURNAL-ARTICLE (ART).

248

AN 90348674. 90000.

AU Gruter-A. Friederich-U. Wurgler-F-E.

IN Institute of Toxicology, Swiss Federal Institute of Technology, Schwerzenbach.

TI *Antimutagenic* effects of mushrooms.

SO Mutat-Res. 1990 Aug. 231(2). P 243-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB A heat-resistant factor in ethanol extracts of the fungus *Craterellus cornucopioides* completely inhibited the mutagenicity of aflatoxin B1, benzo(a)pyrene, the acridine half mustard ICR-191 and 2-nitrofluorene in a forward-mutation system using *Salmonella typhimurium* TM677 (screening for 8-azaguanine resistance). There was no inhibitory effect on the mutagenic activity of 4-nitroquinoline-N-oxide, methyl methanesulfonate or N-methyl-N'-nitro-N-nitrosoguanidine. Experiments performed to elucidate the mechanism of the *antimutagenic* effect showed that neither an alteration of cell viability nor an interference with the excision-repair and the inducible SOS-repair system was involved. The conceivable mechanisms for the antimutagenicity of the ethanol extract include direct chemical interaction with the mutagen and/or inhibition of the activation process in the case of the promutagens. The *antimutagenic* activity of *Craterellus cornucopioides* is not unique among mushroom species. The ethanol extracts of 6 other mushrooms showed a similar *antimutagenic* activity. Author-abstract.

249

AN 90348490. 90000.

AU Ioannides-C. Ayrton-A-D. Keele-A. Lewis-D-F. Flatt-P-R. Walker-R.

IN Department of Biochemistry, University of Surrey, Guildford, UK.

TI Mechanism of the in vitro *antimutagenic* action of retinol.

SO Mutagenesis. 1990 May. 5(3). P 257-62.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* action of retinoids against three amino-imidazoazaarene pre-carcinogens, i.e. 2-amino-3-methylimidazo(4,5-f)quinoline (IQ), 2-amino-3,4-dimethylimidazo(4,5-f)quinoline (MeIQ) and 2-amino-3,8-dimethylimidazo(4,5-f)quinoxaline (MeIQx), was

investigated using the Ames test and hepatic activation systems derived from rats pretreated with Aroclor 1254. Both retinol and retinal, when incorporated into the S9 activation system, gave rise to a concentration-dependent decrease in the mutagenicity of all three mutagens, retinol being generally the more effective. Retinol suppressed the mutagenic activity of IQ even when isolated microsomes were used as activation systems. Moreover, retinol gave rise to a concentration-dependent inhibition of the microsomal dealkylations of pentoxy- and benzyloxy- and, especially, ethoxy-resorufin, but had no effect on the NADPH-dependent reduction of cytochrome c. Exposure of the bacteria to retinol with subsequent removal of the vitamin did not influence the mutagenicity of IQ. It is concluded that retinoids suppress the mutagenicity of aminoimidazoazaarenes and this is achieved through inhibition of their cytochrome P450-dependent metabolic activation. Retinol is a non-selective in vitro inhibitor of the hepatic cytochrome P450-dependent mixed function oxidase system as predicted by a computer graphic analysis of its molecular shape. Author-abstract.

250

AN 90326103. 90000.

AU Takahashi-K. Sekiguchi-M. Kawazoe-Y.

IN Faculty of Pharmaceutical Sciences, Nagoya City University, Japan.

TI Effects of vanillin and o-vanillin on induction of DNA-repair networks: modulation of mutagenesis in *Escherichia coli*.

SO Mutat-Res. 1990 Jun. 230(2). P 127-34.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Vanillin and its isomer o-vanillin have an effect on the adaptive and SOS responses, as well as mutagenesis, induced in *Escherichia coli* by N-methyl-N-nitrosourea (MNU) and UV irradiation, potentiating in some cases and suppressing in others. o-Vanillin markedly inhibited the MNU-induced adaptive response, while both vanillins potentiated the UV-induced SOS response. These phenomena appear to be responsible for the comutagenic or *antimutagenic* role of these chemicals in MNU and UV mutagenesis. Author-abstract.

251

AN 90326102. 90000.

AU Guevara-A-P. Lim-Sylianco-C. Dayrit-F. Finch-P.

IN Institute of Chemistry, University of the Philippines, Quezon City.

TI *Antimutagens* from *Momordica charantia*.

SO Mutat-Res. 1990 Jun. 230(2). P 121-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* principle of the green fruits of *Momordica charantia* was shown by the micronucleus test to be an intractable mixture of novel acylglucosylsterols. The *antimutagens* were extracted from the green fruits with ethanol and isolated from the bioactive petroleum ether and carbon tetrachloride extracts by

repeated and sequential flash column chromatography. The major component of the mixture is 3-O-`6'-O-palmitoyl-beta-D-glucosyl-stigmasta-5,25(27)-dien and the minor component is the stearyl derivative (Guevara, 1989). At a dosage range in mice of 50-12.5 micrograms extract/g, the mixture reduced by about 80% the number of micronucleated polychromatic erythrocytes induced by the well-known mutagen mitomycin C. Structure-activity correlation studies suggested that the *antimutagenic* activity may reside in the peculiar lipid-like structure of the acylglucosylsterols. Ingestion of these compounds may result in their absorption in the plasma membrane lipid bilayer which could adversely affect the membrane permeability towards mitomycin C and disrupt the cellular activity of the latter. Author-abstract.

252

AN 90322983. 90000.

AU Van-Horn-R. DeWire-F-A. Barnes-W-S.

IN Dept. of Biology, Clarion U. of PA 16214.

TI 2,`3:tert-butyl-4-hydroxyanisole does not reduce SCE induction by benzo(a) pyrene in bone marrow cells of C57BL/6 mice.

SO Environ-Mol-Mutagen. 1990. 16(1). P 26-31.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Recently, a number of publications have suggested that bone marrow cytogenetics may be used to detect anticarcinogenic or *antimutagenic* activity. In this work, 0.75% 2,`3:-tert-butyl-4-hydroxyanisole (BHA), fed in the diet for 2 weeks, was tested for its ability to reduce the frequency of benzo(a)pyrene (BP)-induced SCE in mouse bone marrow. C57BL/6 male mice, were injected i.p. with BP at 0, 33, 67, and 100 mg/kg body weight. The mean SCE/chromosome +/- s.e.m. for animals on control diet was 0 mg/kg, 0.108 +/- 0.005; 33 mg/kg, 0.225 +/- 0.011; 67 mg/kg, 0.289 +/- 0.012; 100 mg/kg, 0.311 +/- 0.013. The mean SCE/chromosome +/- s.e.m. for animals on the 0.75% BHA diet was 0 mg/kg, 0.105 +/- 0.006; 33 mg/kg, 0.224 +/- 0.009; 67 mg/kg, 0.262 +/- 0.013; 100 mg/kg, 0.326 +/- 0.012. There are no significant differences between animals on the control and BHA diets. Excretion of BP in urine over a 72 hr time period was significantly increased in animals on the BHA diet, at both low and high doses. Water-soluble metabolites accounted for all of this increase. It appears that bone marrow is not a good model for the gastrointestinal tract, and that short-term assays for anticarcinogens or *antimutagens* are more likely to be predictive if they are done in the target organs. Author-abstract.

253

AN 90309873. 90000.

AU Sato-T. Ose-Y. Nagase-H. Kito-H.

IN Department of Public Health, Gifu Pharmaceutical University, Japan.

TI Mechanism of antimutagenicity of aquatic plant extracts against

benzo`a:pyrene in the Salmonella assay.

SO Mutat-Res. 1990 Jul. 241(3). P 283-90.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The mechanism of antimutagenicity of water extracts of grass-wrack pondweed (*Potamogeton oxyphyllus* Miquel), curled pondweed (*Potamogeton crispus* L.) and smartweed (*Polygonum hydropiper* L.) towards benzo`a:pyrene mutagenicity in *Salmonella typhimurium* was investigated. The *antimutagenic* components in the aquatic plants were water-soluble, heat-resistant and had a high molecular weight; chlorophyll did not play an important role. Author-abstract.

254

AN 90287219. 90000.

AU Renner-H-W.

IN Federal Research Centre for Nutrition, Karlsruhe, F.R.G.

TI In vivo effects of single or combined dietary *antimutagens* on mutagen-induced chromosomal aberrations.

SO Mutat-Res. 1990 Jun. 244(2). P 185-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The food components chlorophyllin, beta-carotene and alpha-linolenic acid (in its methyl ester form) were tested in Chinese hamsters for *antimutagenic* activity on the powerful mutagen thio-tepa. Each of these natural protective compounds inhibited by 70-85% the clastogenic effects induced by the mutagen. When 2 or 3 of these *antimutagens* were administered simultaneously no additive effects were observed. alpha-Linolenic acid methyl ester was the most effective *antimutagen* under the experimental conditions. Author-abstract.

255

AN 90287210. 90000.

AU Sakai-Y. Nagase-H. Ose-Y. Kito-H. Sato-T. Kawai-M. Mizuno-M.

IN Gifu Prefectural Institute of Public Health, Japan.

TI Inhibitory action of peony root extract on the mutagenicity of benzo`a:pyrene.

SO Mutat-Res. 1990 Jun. 244(2). P 129-34.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The inhibitory effects of peony root extract on the mutagenicity of benzo`a:pyrene (B`a:p) have been investigated in the *Salmonella typhimurium* reversion test. Four kinds of experiments were performed: direct chemical reaction (1) between peony root extract and B`a:p, and (2) between peony root extract and active metabolite(s) of B`a:p, (3) inhibition of metabolic processes of B`a:p with S9 mix, and (4) inhibition of activation on mutagenicity. Peony root extract interfered with the action of enzymes in the S9 mix, and inactivated the activity of B`a:p metabolites. The *bio-antimutagenic* effect was assayed by reversion in *Salmonella*

typhimurium TA98 and TA100. Author-abstract.

256

AN 90273785. 90000.

AU Kullich-W. Hermann-J. Klein-G.

IN Ludwig-Boltzmann-Institut für Rehabilitation innerer Erkrankungen, Saalfelden.

TI `Cytogenetic studies of human lymphocytes under the influence of oxicams:.

SO Z-Rheumatol. 1990 Mar-Apr. 49(2). P 77-81.

JT ZEITSCHRIFT FÜR RHEUMATOLOGIE.

PT JOURNAL-ARTICLE (ART).

AB The influence of the oxicams, a special group of non-steroidal anti-inflammatory drugs, to the sister chromatid exchange (SCE) was determined on human lymphocytes in vitro and in vivo. The analysis of SCE is a sensitive parameter indicating chromosomal damage. The cytogenetic examinations of Lornoxicam, Tenoxicam, and Piroxicam in vitro showed no influence on the SCE frequencies in therapeutic dosages. With addition of mitomycin C (MMC) to the cultures (a method which simulates an additional genotoxic stress) we found significant higher SCE rates in connection with the oxicams than in controls without an oxicam. A 14-day treatment with Tenoxicam and Lornoxicam changed the spontaneous SCE rates in vivo; Piroxicam did not. The raised SCE levels could indicate an *antimutagenic* effect of the oxicams if the repair of DNA damages is transferred to a more perfect pathway; however by an overloading of the repair, due to additional genotoxic factors (such as cytostatics, cigarette smoking, x-ray exposure) therapy with oxicams could point out a genotoxic risk. Author-abstract.

257

AN 90270874. 90000.

AU Cassady-J-M. Baird-W-M. Chang-C-J.

IN College of Pharmacy, Ohio State University, Columbus 43210.

TI Natural products as a source of potential cancer chemotherapeutic and chemopreventive agents.

SO J-Nat-Prod. 1990 Jan-Feb. 53(1). P 23-41.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB Recent advances in the chemistry of novel bioactive natural products are reported. This research is directed to the exploration of plants with confirmed activity in bioassays designed to detect potential cancer chemotherapeutic and chemopreventive agents. Structural work and chemical studies are reported for several cytotoxic agents from the plants *Annona densicoma*, *Annona reticulata*, *Claopodium crispifolium*, *Polytrichum obioense*, and *Psorospermum febrifugum*. Studies are also reported based on development of a mammalian cell culture benzo(a)pyrene metabolism assay for the detection of potential anticarcinogenic agents from natural products. In this study a number of isoflavonoids and flavonoids with *antimutagenic*

activity have been discovered. Author-abstract. 138 Refs.

258

AN 90263899. 90000.

AU Nersesian-A-K. Zilfian-V-N. Kumkumadzhian-V-A. Proshian-N-V.

TI *`Antimutagenic* properties of sea buckthorn oil:.

SO Genetika. 1990 Feb. 26(2). P 378-80.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The influence of sea-buckthorn oil on cyclophosphamide, farmorubicin and dioxadet mutagenicity was studied. The oil decreased significantly the cytogenetic action of cyclophosphamide and farmorubicin, but not of dioxadet action. Possible mechanisms of *antimutagenic* action of the oil are discussed. Author-abstract.

259

AN 90254610. 90000.

AU Vance-R-E. Teel-R-W.

IN Department of Physiology and Pharmacology, Loma Linda University, School of Medicine, CA 92350.

TI Effect of tannic acid on rat liver S9 mediated mutagenesis, metabolism and DNA binding of benzo`a:pyrene.

SO Cancer-Lett. 1989 Sep 15. 47(1-2). P 37-44.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Tannic acid, a naturally occurring plant phenol, inhibited rat liver S9 mediated mutagenesis of benzo`a:pyrene in Salmonella typhimurium by 32-77% at concentrations of 5-50 micrograms/mutagenesis plate. Tannic acid (10-40 microM) had no affect on the formation of organosoluble metabolites of benzo`a:pyrene or of its water-soluble conjugates. It did, however, inhibit benzo`a:pyrene (B`a:P) metabolite binding to calf thymus DNA by 40% at a concentration of 40 microM and inhibited benzo`a:pyrene 7,8-dihydrodiol-9,10-epoxide (BPDE): deoxyguanosine adduct formation in calf thymus DNA by 12-54% at concentrations of 10-40 microM. These results suggest that the *antimutagenic* effect of tannic acid and inhibition of B`a:P metabolite binding to DNA is by a previously described scavenging mechanism and/or by a DNA-affinity binding mechanism that prevents BPDE interaction with DNA as previously described for ellagic acid. Author-abstract.

260

AN 90246829. 90000.

AU Edenharder-R. John-K. Ivo-Boor-H.

IN Hygiene-Institut, Johannes-Gutenberg-Universitat Mainz.

TI *`Antimutagenic* activity of vegetable and fruit extracts against in-vitro benzo(a)pyrene:.

SO Z-Gesamte-Hyg. 1990 Mar. 36(3). P 144-7.

JT ZEITSCHRIFT FUR DIE GESAMTE HYGIENE UND IHRE GRENZGEBIETE.

PT JOURNAL-ARTICLE (ART).

AB About 80% of the juices from twenty vegetables and fruits showed *antimutagenic* activity when tested in the presence of the mutagen and carcinogen benzo`a:pyrene using the Ames' Salmonella/microsome assay. In a standardized test system juices from raw celeriac, broccoli, red cabbage, carrots, green, peppers, lettuce, asparagus, apricots, red-currants, gooseberries, raspberries, and pineapple showed more than 50% inhibition. Leek, kohlrabi, cucumber, zucchini, French beans, fennel leaves, rhubarb, and sweet cherries were less effective. No *antimutagenic* activity was detected in onions, Chinese cabbage, radish, and white cabbage. Cooking considerably reduced the *antimutagenic* activity of celeriac, leek, broccoli, French beans, carrots, asparagus, cherries, and pineapple, but was ineffective or only moderately effective with kohlrabi, zucchini, cucumber, fennel leaves, lettuce, apricots, red-currants, gooseberries, and raspberries. Author-abstract.

261

AN 90245030. 90000.

AU Sasaki-Y-F. Matsumoto-K. Imanishi-H. Watanabe-M. Ohta-T. Shirasu-Y. Tutikawa-K.

IN Institute of Environmental Toxicology, Tokyo, Japan.

TI In vivo anticlastogenic and *antimutagenic* effects of tannic acid in mice.

SO Mutat-Res. 1990 May. 244(1). P 43-7.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The anticlastogenic effect of tannic acid was studied in vivo in the mouse micronucleus test. The frequencies of micronuclei induced by mitomycin C, ethyl nitrosourea (ENU) or 4-nitroquinoline 1-oxide in mouse bone marrow cells were decreased by the oral administration of tannic acid 6 h before the mutagen injection. The observed suppressing effect was not a reflection of a delay in the formation of micronuclei by the cytotoxic effect of tannic acid. The *antimutagenic* effect of tannic acid was also investigated in vivo in the mouse spot test using male PW and female C57BL/10 mice. Tannic acid was given orally to pregnant females 6 h before the intraperitoneal injection of ENU on the 10th day of pregnancy. The frequency of pups with recessive color spots induced by ENU was decreased by the administration of tannic acid. The observed decrease was not due to toxic effects on the embryo. These results indicate that tannic acid acts as an anticlastogen and *antimutagen* in vivo. Author-abstract.

262

AN 90235817. 90000.

AU Hartman-P-E. Shankel-D-M.

IN Department of Biology, Johns Hopkins University, Baltimore, Maryland 21218.

TI *Antimutagens* and anticarcinogens: a survey of putative interceptor molecules `published erratum appears in Environ Mol Mutagen

1990;16(2):136:.

SO Environ-Mol-Mutagen. 1990. 15(3). P 145-82.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB In this review recent publications are cited for a number of *antimutagens.* The molecules surveyed are potential or proven "desmutagens" or "interceptors." These are biologically prevalent or synthetic molecules that are most often small metabolites proficient in binding to, or reacting with, mutagenic chemicals and free radicals. Many of this class of "blocking agents" are "soft" and "hard" nucleophiles with consequently varying abilities to react with particular classes of electrophiles, the major classes of direct-acting mutagens. Although they serve as a first line of defense against mutagens and carcinogens, many interceptor molecules are under-investigated with regard to their spectra of activity and their possible relevance to prophylaxis or treatment of human disease states. Author-abstract. 553 Refs.

263

AN 90226243. 90000.

AU Waters-M-D. Brady-A-L. Stack-H-F. Brockman-H-E.

IN U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

TI The concept of activity profiles of *antimutagens.*

SO Basic-Life-Sci. 1990. 52. P 87-104.

JT BASIC LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).

AB 70 Refs.

264

AN 90226241. 90000.

AU Wall-M-E. Wani-M-C. Hughes-T-J. Taylor-H.

IN Research Triangle Institute, Research Triangle Park, North Carolina 27709.

TI Plant *antimutagens.*

SO Basic-Life-Sci. 1990. 52. P 61-78.

JT BASIC LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART).

265

AN 90226240. 90000.

AU Bronzetti-G. Galli-A. Della-Croce-C.

IN Istituto di Mutagenesi e Differenziamento, C.N.R., Pisa, Italy.

TI *Antimutagenic* effects of chlorophyllin.

SO Basic-Life-Sci. 1990. 52. P 463-8.

JT BASIC LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART).

266

AN 90226238. 90000.

AU Shankel-D-M. Clarke-C-H.
IN University of Kansas, Lawrence.
TI Specificity of *antimutagens* against chemical mutagens in microbial systems.
SO Basic-Life-Sci. 1990. 52. P 457-60.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).
AB Procedures have been developed which enable the study of *antimutagenic* specificity of certain *antimutagenic* chemicals against chemical mutagens/carcinogens. Modifications of the Ames Salmonella assay, the Bacillus subtilis rec assay of Kada and co-workers, and the Luria-Delbruck fluctuation test, along with procedures we have developed utilizing E. coli K12 strain ND160 developed by Dworkin, all are employed in these studies. Using these procedures, a number of naturally-occurring compounds and/or their derivatives have been shown to produce *antimutagenic* specificity either against changes at different specific genetic loci or against activity of specific chemical mutagens such as nitrofurazone, ethyl methanesulfonate, or caffeine. Compounds that demonstrate this activity include cinnamaldehyde, chlorophyllin, an extract of Glycyrrhiza glabra, spermine, and mixtures of guanosine and cytidine. The data demonstrate that some *antimutagens* act specifically against spontaneous mutations, while others inhibit the development of chemically-induced mutations at specific loci. These results have potential application to the prevention of chemical toxicological damage. Author-abstract.

267

AN 90226235. 90000.
AU Rojanapo-W. Tepsuwan-A. Siripong-P.
IN Biochemistry and Chemical Carcinogenesis Section, National Cancer Institute, Bangkok, Thailand.
TI Mutagenicity and antimutagenicity of Thai medicinal plants.
SO Basic-Life-Sci. 1990. 52. P 447-52.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).
AB Crude extracts and partially purified as well as purified fractions were prepared from three Thai medicinal plants, namely, Acanthus ebracteatus Vahl, Plumbago indica Linn, and Rhinacanthus nasutus Kurz, and then tested for their mutagenic and *antimutagenic* potentials using the Salmonella/microsome mutagenicity test. All fractions tested were not mutagenic toward either strain TA98 or TA100 whether tested in the presence or absence of S-9 mix. Interestingly, however, various fractions--especially those extracted by organic solvents such as petroleum ether, hexane, and chloroform, as well as some purified compounds from these plants--could strongly inhibit the mutagenicity of aflatoxin B1 (AFB1), an indirect mutagen, when tested in the presence of S-9 mix but not that of 2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide (AF-2), which does not require metabolic activation for its mutagenicity. Furthermore,

these fractions could markedly inhibit the activity of rat liver aniline hydroxylase, which is one of the cytochrome-P450-mediated reactions. These results therefore suggest that these Thai medicinal plants contain an *antimutagen(s)* which inhibits chemical mutagenesis by inhibiting the enzyme activities necessary for activation of indirect mutagens/carcinogens. Identification as well as anticarcinogenicity of purified compounds of these plants are being investigated in our laboratory. Author-abstract.

268

AN 90226234. 90000.
AU Kamiya-M. Sengoku-Y. Takahashi-K. Kohda-K. Kawazoe-Y.
IN Faculty of Pharmaceutical Sciences, Nagoya City University, Japan.
TI *Antimutagenic* structure modification of quinoline:
fluorine-substitution at position-3.
SO Basic-Life-Sci. 1990. 52. P 441-6.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).

269

AN 90226231. 90000.
AU Nohmi-T. Battista-J-R. Ohta-T. Igras-V. Sun-W. Walker-G-C.
IN Department of Biology, Massachusetts Institute of Technology,
Cambridge 02139.
TI *Antimutagenic* effect of umuD mutant plasmids: isolation and
characterization of umuD mutants reduced in their ability to promote
UV mutagenesis in Escherichia coli.
SO Basic-Life-Sci. 1990. 52. P 417-21.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).

270

AN 90226226. 90000.
AU Au-W-W. Anwar-W-A. Hanania-E. Ramanujam-V-M.
IN Department of Preventive Medicine and Community Health, University of
Texas Medical Branch, Galveston 77550.
TI *Antimutagenic* effects of dimethyl sulfoxide on metabolism and
genotoxicity of benzene in vivo.
SO Basic-Life-Sci. 1990. 52. P 389-93.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).

271

AN 90226225. 90000.
AU Fahrig-R.
IN Fraunhofer Institut fur Toxikologie und Aerosolforschung, Abteilung
Genetik, Hannover, Federal Republic of Germany.
TI *Antimutagenic* effects of tumor promoters--co-mutagenic effects of
co-carcinogens.
SO Basic-Life-Sci. 1990. 52. P 385-8.

JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).

272

AN 90226222. 90000.
AU Parker-K-R. von-Borstel-R-C.
IN Department of Genetics, University of Alberta, Edmonton, Canada.
TI Antimutagenesis in yeast by sodium chloride, potassium chloride, and sodium saccharin.
SO Basic-Life-Sci. 1990. 52. P 367-71.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).
AB Aqueous salt solutions containing NaCl, KCl, MgCl₂, Na₂SO₄, CaCl₂, NH₄Cl, or sodium saccharin are mutagenic in yeast when logarithmic growth of cells is interrupted by exposure to a 0.5-2.0 M salt solution. Stationary-phase cells are not mutated by this treatment. When placed in an enriched medium with the salt, the stationary-phase cells grow after a prolonged lag period. The compounds tested (NaCl, KCl, and sodium saccharin), under conditions in which growth in medium can take place, exhibit an *antimutagenic* response as measured by the compartmentalization test. The *antimutagenic* action of salt solutions in yeast is concentration-dependent. Unlike the mutagenic action of these compounds, which approximates an osmolality-dependent response, the *antimutagenic* action seems to be correlated with toxicity as measured by growth rate reduction at increasing concentrations of the compounds. For example, sodium saccharin and NaCl exhibit almost identical osmolalities; however, 0.3 M sodium saccharin reduces the growth rate much more than does 0.3 M NaCl. At these same molar concentrations, the spontaneous mutation rate for histidine prototrophy is, for the control, 6.2×10^{-8} mutations/cell/-generation, 3.5×10^{-8} with 0.3 M NaCl, and 1.7×10^{-8} with 0.3 M sodium saccharin. Author-abstract.

273

AN 90226207. 90000.
AU Kuroda-Y.
IN Department of Ontogenetics, National Institute of Genetics, Shizuoka, Japan.
TI *Antimutagenic* activity of vitamins in cultured mammalian cells.
SO Basic-Life-Sci. 1990. 52. P 233-56.
JT BASIC LIFE SCIENCES.
PT JOURNAL-ARTICLE (ART).
AB Cultured mammalian cell systems are useful for examining the quantitative effects of mutagens and *antimutagens* on cell survival and gene mutations and the mechanisms of the interaction of two chemicals in the process of mutation induction. In the present article, the *antimutagenic* effects of vitamins C, E, and A, and derivatives of vitamin C on EMS-induced 6TG-resistant mutations in Chinese hamster V79 cells were examined. Vitamin C was most effective in inhibiting EMS-induced cytotoxicity and 6TG-resistant

mutations. In the presence of vitamin C at a concentration of 100 micrograms/ml, EMS-induced mutations were reduced to about one-third or one-fourth of those in control cultures treated with EMS alone. Dehydro-vitamin C and iso-vitamin C also inhibited EMS-induced mutations to about one-half or one-third of the control level. The fact that vitamin C was effective in reducing EMS-induced mutations when EMS was previously incubated together with vitamin C for 3 hr suggests that vitamin C may react directly with EMS as a desmutagen and thus inactivate its mutation-inducing activity in Chinese hamster V79 cells. Vitamin E had an additive cytotoxic effect on EMS-induced cytotoxicity. This vitamin enhanced the frequencies of 6TG-resistant mutations induced by EMS. Pretreatment with vitamin E before treatment with EMS resulted in no detectable effect in modifying the EMS-induced mutations. On the contrary, vitamin A markedly enhanced EMS-induced mutation frequencies. Author-abstract.

274

AN 90190733. 90000.

AU Sasaki-Y-F. Imanishi-H. Watanabe-M. Ohta-T. Shirasu-Y.

IN Institute of Environmental Toxicology, Tokyo, Japan.

TI Suppressing effect of *antimutagenic* flavorings on chromosome aberrations induced by UV-light or X-rays in cultured Chinese hamster cells.

SO Mutat-Res. 1990 Mar. 229(1). P 1-10.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chromosome aberrations induced by UV-light or X-rays were suppressed by the post-treatment with *antimutagenic* flavorings, such as anisaldehyde, cinnamaldehyde, coumarin, and vanillin. UV- or X-ray-irradiated surviving cells increased in the presence of each flavoring. X-ray-induced breakage-type and exchange-type chromosome aberrations were suppressed by the vanillin treatment in the G1 phase of the cell cycle and a greater decrease in the number of X-ray-induced chromosome aberrations during G1 holding was observed in the presence of vanillin. Furthermore, a greater decrease in the number of X-ray-induced DNA single-strand breaks was observed in the presence of vanillin. Treatment with vanillin in the G2 phase suppressed UV- and X-ray-induced breakage-type but not exchange-type chromosome aberrations. The suppression of breakage-type aberrations was assumed to be due to a modification of the capability of the post-replicative repair of DNA double-strand breaks. These G1- and G2-dependent anticlastogenic effects were not observed in the presence of 2',3'-dideoxythymidine, an inhibitor of DNA polymerase beta. Based on these results, the anticlastogenic effect of vanillin was considered to be due to the promotion of the DNA rejoining process in which DNA polymerase beta acts. Author-abstract.

275

AN 90177798. 90000.

AU Sorenson-J-R. Soderberg-L-S. Chidambaram-M-V. de-la-Rosa-D-T.

Salari-H. Bond-K. Kearns-G-L. Gray-R-A. Epperson-C-E. Baker-M-L.
IN Division of Medicinal Chemistry, College of Pharmacy, University of
Arkansas for Medical Sciences, Little Rock 72205.

TI Bioavailable copper complexes offer a physiologic approach to
treatment of chronic diseases.

SO Adv-Exp-Med-Biol. 1989. 258. P 229-34.

JT ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Copper (II) $2(3,5\text{-Diisopropylsalicylate})_4(\text{H}_2\text{O})_2$ has been found to have
antiinflammatory, antiulcer, anticonvulsant, anticancer,
anticarcinogenic, *antimutagenic,* and radiation recovery activities
and it prevents reperfusion injury. To study pharmacokinetic
parameters accounting for these pharmacological effects the double
labeled $^{67}\text{Cu}(\text{II})_2(\text{carboxy-}^{14}\text{C-}3,5\text{-diisopropylsalicylate})_4$ complex was
synthesized and used to obtain these parameters. Treatment of mice
with 1 μmol of this complex revealed that ^{67}Cu was distributed to
blood, liver, kidney, intestine, lung, thymus, femur, muscle, spleen,
brain, urine, and feces within 0.5 hr and patterned changes in ^{67}Cu
content of these tissues and excreta were found throughout the 96 hr
term of this study. Author-abstract.

276

AN 90158661. 90000.

AU Imanishi-H. Sasaki-Y-F. Matsumoto-K. Watanabe-M. Ohta-T.
Shirasu-Y. Tutikawa-K.

IN Institute of Environmental Toxicology, Tokyo, Japan.

TI Suppression of 6-TG-resistant mutations in V79 cells and recessive
spot formations in mice by vanillin.

SO Mutat-Res. 1990 Feb. 243(2). P 151-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effects of vanillin, anisaldehyde, cinnamaldehyde
and coumarin were investigated in cultured Chinese hamster V79 cells
in vitro. The frequencies of 6-TG-resistant mutations induced by UV
or X-rays were decreased by treatment with each compound during the
expression time. These decreases were not due to cytotoxic effects
on cellular growth or killing effects on damaged cells. The
antimutagenic effect of vanillin was also investigated in vivo in the
mouse spot test using male PW and female C57BL/10 mice. Female mice
were injected intraperitoneally with ethylnitrosourea (ENU) on the
10th day of pregnancy and received 3 successive oral administrations
of vanillin. Administration of vanillin decreased the ENU-induced
frequency of recessive carrier pups. These results indicate that
vanillin acts as an *antimutagen* in mammalian cells both in vitro and
in vivo. Author-abstract.

277

AN 90158651. 90000.

AU Waters-M-D. Brady-A-L. Stack-H-F. Brockman-H-E.

IN U.S. Environmental Protection Agency, Research Triangle Park, NC

27711.

TI Antimutagenicity profiles for some model compounds.

SO Mutat-Res. 1990 Jan. 238(1). P 57-85.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The concept of activity profile listings and plots, already applied successfully to the display of mutagenicity data, has been modified for application to antimutagenicity data. The activity profiles are bar graphs that have been organized in two general ways: for *antimutagens* that have been tested in combination with a given mutagen and for mutagens that have been tested in combination with a given *antimutagen.* Doses from both the mutagen and the *antimutagen* are displayed and plotted together with results on enhancement or inhibition of mutagenic activity. The short-term tests that have been used extensively to identify mutagens and potential carcinogens are increasingly being used to identify *antimutagens* and potential anticarcinogens. Three model mutagens, N-methyl-N'-nitro-N-nitrosoguanidine, aflatoxin B1 and benzo`a:pyrene, and 4 model *antimutagens,* butylated hydroxyanisole, butylated hydroxytoluene, glutathione and disulfiram, were selected from the data surveyed in the published literature. It is not clear at the present time whether the inhibition of carcinogen-induced mutation is a good indicator of anticarcinogenic properties, and further research is needed. Nevertheless, the activity profiles are useful for the assessment of the available antimutagenesis data by providing rapid visualization of considerable dose information and experimental results. Author-abstract. 135 Refs.

278

AN 90113984. 90000.

AU Frolov-A-F. Varbanets-L-D. Antonenko-S-V. Rybalko-S-L. Zakharova-IIa.

TI `Polysaccharide--a stimulant of DNA reparative synthesis:.

SO Mikrobiol-Zh. 1989 Jul-Aug. 51(4). P 98-9.

JT MIKROBIOLOGICHESKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB It is stated that regulation of the repair synthesis of DNA underlies the *antimutagenic* action of the polysaccharide isolated from bacteria. Protective effect of polysaccharides is also displayed. Author-abstract.

279

AN 90111740. 90000.

AU Wall-M-E. Wani-M-C. Manikumar-G. Taylor-H. Hughes-T-J. Gaetano-K. Gerwick-H-W. McPhail-A-T. McPhail-D-R.

IN Research Triangle Institute, Research Triangle Park, North Carolina 27709.

TI Plant *antimutagenic* agents, 7. Structure and *antimutagenic* properties of cymobarbatol and 4-isocymobarbatol, new cymopols from green alga (Cymopolia barbata).

SO J-Nat-Prod. 1989 Sep-Oct. 52(5). P 1092-9.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART).

AB Two new compounds, cymobarbatol and 4-isocymobarbatol, were isolated from the marine alga *Cymopolia barbata*. The complete structures and absolute stereochemistries of these compounds were elucidated by a variety of spectroscopic techniques and X-ray crystallography. Both compounds were found to be nontoxic over a broad concentration range to *Salmonella typhimurium* strains T-98 and T-100. Both compounds exhibited strong inhibition of the mutagenicity of 2-aminoanthracene and ethyl methanesulfonate toward, respectively, the T-98 strain plus a metabolic activator and T-100. Author-abstract.

280

AN 90109280. 90000.

AU Grover-I-S. Kaur-S.

TI Effect of *Embllica officinalis* Gaertn. (Indian gooseberry) fruit extract on sodium azide and 4-nitro-o-phenylenediamine induced mutagenesis in *Salmonella typhimurium*.

SO Indian-J-Exp-Biol. 1989 Mar. 27(3). P 207-9.

JT INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Water, acetone and chloroform extracts of *E. officinalis* fruit reduced sodium azide and NPD induced his⁺ revertants significantly in TA100 and TA97 strains respectively of *S. typhimurium*. The chloroform extract was less active as compared to water and acetone extracts. Autoclaving of water extract for 15 min did not reduce its activity. The enhanced inhibitory activity of the extracts on pre-incubation suggests the possibility of desmutagens in the extracts. Besides ascorbic acid, a constituent of the extract, the role of other *antimutagenic* factors in the extract cannot be ruled out. Author-abstract.

281

AN 90092985. 90000.

AU Sinelshchikova-T-A. Chekova-V-V. Zasukhina-G-D.

TI Mechanisms of impairment of DNA repair in human cells. Interferons stimulated DNA repair in xeroderma pigmentosum cells:.

SO Genetika. 1989 Sep. 25(9). P 1658-63.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB DNA repair synthesis and strand break DNA repair induced by 4-nitroquinoline-1-oxide and UV-irradiation in Xeroderma pigmentosum lymphocytes and fibroblasts pretreated by leucocyte interferons were studied. Stimulation of DNA repair synthesis in interferon-pretreated Xeroderma pigmentosum cells, defective in incision, was detected. No such effect was noted for strand break DNA repair. Hence, *antimutagenic* activity of interferons in human cells is connected with their modifying effect on DNA repair. Author-abstract.

282

AN 90092977. 90000.

AU Dzhezdzhelava-D-A. Egorov-I-A. Tarasov-V-A.

TI `Induction of SOS function in *Escherichia coli* after exposure to various types of chemical mutagens:.

SO Genetika. 1989 Sep. 25(9). P 1551-8.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB On the basis of the SOS-chromotest which was developed by the authors earlier, the minimum time required for expression of the SOS-response is shown to be 15 min, the maximum being recorded 2 h later. An assay of induction of the SOS-response to the mutagens which act on DNA via various mechanisms (e. g., UV-irradiation, mitomycin C, nalidixic acid, nitroso-methylurea and acridine orange) revealed that all the mutagens under study caused induction of the SOS-response. Analysis of efficiency of SOS induction under the action of a mixture of formaldehyde with various amino acids has shown that arginine, asparagine and, especially, cysteine decrease the level of the SOS-response induction. This fact suggests an opportunity for using the SOS-chromotest not only to identify the mutagens and cancerogens, but also to screen the agents for their *antimutagenic* activity. The study of the SOS-response in the cells which are deficient in genes for repair and recombination has shown that induction is significantly suppressed in the mutants *recA*, *lexA* and *recF*; it is not modified in *sbcB* mutants and is significantly increased in the mutant lines *recBC*, *uvrB* and, particularly, in the double mutant *recBCsbcB*. Author-abstract.

283

AN 90066577. 90000.

AU Zhang-Y-S. Chen-X-R. Yu-Y-N.

IN Department of Pathophysiology, Zhejiang Medical University, Hangzhou, China.

TI *Antimutagenic* effect of garlic (*Allium sativum* L.) on 4NQO-induced mutagenesis in *Escherichia coli* WP2.

SO Mutat-Res. 1989 Dec. 227(4). P 215-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Aqueous extract prepared from garlic bulbs markedly suppressed the mutagenesis in both *E. coli* WP2 *trp*⁻ and *E. coli* WP2 *trp*⁻ *uvrA*⁻ induced by 4-nitroquinoline 1-oxide (4NQO), but not that induced by UV. Cellular toxicity, inhibition of the expression of the *Trp*⁺ phenotype and delay of the first cell division after 4NQO treatment were not observed in the presence of the extract. Since the extract showed identical *antimutagenic* effects against 4NQO in both test strains but no effect on the mutagenesis of UV, it seems that the extract might act by inactivating the electrophilic group(s) of 4NQO or inhibiting its metabolic activation. Author-abstract.

284

AN 90058498. 90000.

AU Laidlaw-S-A. Dietrich-M-F. Lamtenzan-M-P. Vargas-H-I. Block-J-B.
Kopple-J-D.

IN Department of Medicine, School of Medicine, Harbor-UCLA Medical
Center, Torrance 90509.

TI *Antimutagenic* effects of taurine in a bacterial assay system.

SO Cancer-Res. 1989 Dec 1. 49(23). P 6600-4.

JT CANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Taurine (2-aminoethanesulfonic acid) was evaluated as an *antimutagen* in the Ames Salmonella tester strain assay. Taurine inhibited mutagenesis by doxorubicin (-74%), bleomycin (-55%), mitomycin C (-56%), and 2-aminofluorene (-52%), but not danthrone or benzo(a)pyrene, in strain TA102. In strain TA98, doxorubicin mutagenicity, but not that of 2-aminofluorene or benzo(a)pyrene, was inhibited by taurine. N-Methyl-N'-nitro-N-nitrosoguanidine (-73%), but not dexamethasone, mutagenicity was inhibited by taurine in strain TA100. Taurine inhibited those mutagens against which it was effective in a dose-related fashion. Taurine was more effective in inhibiting doxorubicin mutagenicity in strain TA102 than its analogues hypotaurine, beta-alanine, and guanidinoethanesulfonic acid or alanine or glycine. The observed inhibition may indicate a role for taurine in modulating the activity of oxidant species.
Author-abstract.

285

AN 90055048. 90000.

AU Robins-E-W. Nelson-R-L.

IN University of Illinois College of Medicine, Department of Surgery,
Chicago 60612.

TI Inhibition of 1,2-dimethylhydrazine-induced nuclear damage in rat
colonic epithelium by chlorophyllin.

SO Anticancer-Res. 1989 Jul-Aug. 9(4). P 981-5.

JT ANTICANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin (CHL) was tested for its effect on 1,2-dimethylhydrazine (DMH)-induced nuclear aberrations in rat colonic epithelium. Rats were given water containing CHL (1.5 mM) and food ad libitum. After 5 wks on this dietary regimen, the rats were given a single intraperitoneal injection of DMH (20 mg DMH base/kg body weight). The rats were sacrificed 18 hours later and their colons were removed. Ten consecutive crypts from the proximal and distal portion of each specimen were scored for nuclear aberrations and the karyorrhectic index (KI) was determined. Rats receiving CHL + DMH had significantly fewer nuclear aberrations (lower KI) in the colonic epithelium than rats given DMH alone. This implies that CHL, a known *antimutagen,* may have anticarcinogenic properties as well. Author-abstract.

286

AN 90050607. 90000.
AU Nersesian-A-K. Zilfian-V-N. Kumkumadzhian-V-A.
TI `Decrease in the cytogenetic effect of adriblastin and pharmorubicin
with the experimental use of tularemia vaccine:.
SO Tsitol-Genet. 1989 Jul-Aug. 23(4). P 63-5.
JT TSITOLOGIIA I GENETIKA.
PT JOURNAL-ARTICLE (ART).
AB Immunization of Wistar rats with tularemic vaccine has been studied
for its influence on the cytogenetic effect of adryblastine and
pharmorubicyn. It is shown that the number of aberrant metaphases
considerably decreases in the myelocaryocytes of vaccinated rats.
Antimutagenic effect is induced by the influence of tularemic vaccine
on the metabolic activation processes of antibiotics and, possibly,
by an increase of the activity of antioxidative enzymes in the rat
organism. Author-abstract.

287

AN 90039334. 90000.
AU Wall-M-E. Wani-M-C. Manikumar-G. Taylor-H. McGivney-R.
IN Research Triangle Institute, North Carolina 27709.
TI Plant *antimutagens,* 6. Intricatin and intricatinol, new
antimutagenic homoisoflavonoids from Hoffmannosseggia intricata.
SO J-Nat-Prod. 1989 Jul-Aug. 52(4). P 774-8.
JT JOURNAL OF NATURAL PRODUCTS.
PT JOURNAL-ARTICLE (ART).
AB Intricatin `1: and intricatinol `2: are new homoisoflavonoids
isolated from a desert plant Hoffmannosseggia intricata, which was
collected in Baja California, Mexico. The structures of the
compounds were elucidated using a variety of spectroscopic
techniques. The structure of 1 was shown to be
7,4'-dimethoxy-8-hydroxyhomoisoflavone, and 2 was shown to be
4'-methoxy-7,8-dihydroxyhomoisoflavone. Both compounds 1 and 2
displayed activity in the inhibition of the mutagenicity of 2AN
toward Salmonella typhimurium (T98). Compound 2 was much more active
than 1 in the case of the inhibition of the mutagenicity of AAF
toward S. typhimurium (T98) and the inhibition of EMS towards S.
typhimurium (T100). Compounds 1 and 2 are the first examples of
antimutagenic activity in homoisoflavones. Author-abstract.

288

AN 90039333. 90000.
AU Manikumar-G. Gaetano-K. Wani-M-C. Taylor-H. Hughes-T-J.
Warner-J. McGivney-R. Wall-M-E.
IN Research Triangle Institute, North Carolina 27709.
TI Plant *antimutagenic* agents, 5. Isolation and structure of two new
isoflavones, fremontin and fremontone from Psoralea fremontii.
SO J-Nat-Prod. 1989 Jul-Aug. 52(4). P 769-73.
JT JOURNAL OF NATURAL PRODUCTS.
PT JOURNAL-ARTICLE (ART).

AB Two new isoflavones, fremontin and fremontone, were isolated from roots of *Psoralea fremontii* (Fabaceae), a desert plant. Compound 1 has the structure 5'-(alpha, alpha-dimethylallyl)-5,7,2',4'-tetrahydroxyisoflavone; compound 2 is similar but also contains the 3'-(gamma,gamma-dimethylallyl) substituent. The alpha,alpha-dimethylallyl substituent is rarely observed, and the combination of the alpha,alpha- and gamma,gamma-dimethylallyl substituents is unprecedented. Both 1 and 2 were nontoxic toward *Salmonella typhimurium* and were both highly active in the inhibition of mutagenicity of ethyl methanesulfonate (EMS) at all concentrations tested. Compound 2 was more active than 1 in the inhibition of mutagenicity of 2-aminoanthracene (2AN) and acetylaminofluorene (AAF) toward *S. typhimurium*. Author-abstract.

289

AN 90014912. 90000.

AU Goncharova-R-I. Kuzhir-T-D.

IN Institute of Genetics and Cytology, BSSR Academy of Sciences, Minsk.

TI A comparative study of the *antimutagenic* effects of antioxidants on chemical mutagenesis in *Drosophila melanogaster*.

SO Mutat-Res. 1989 Oct. 214(2). P 257-65.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The 1,4-dihydropyridine derivative

2,6-dimethyl-3,5-diethoxycarbonyl-4-(Na carboxylate)-1,4-dihydropyridine (1,4-DHP) was studied for *antimutagenic* effects in the dominant lethal test and in the sex-linked recessive lethal test of *Drosophila melanogaster*. The observed effects were compared with those of the radioprotectors cysteine and cysteamine and with those of the phenolic antioxidant butylated hydroxytoluene (BHT). In a wide range of concentrations, including low ones, 1,4-DHP reduces the frequency of EMS-induced genetic damage (point mutations and chromosome breakage). A reduction of the mutation rate induced by EMS in adults could be observed independently of the developmental stages (larvae or imago) pretreated with 1,4-DHP. The protective effect of this new *antimutagen* against the alkylating agent depended on both the 1,4-DHP dose and the level of the EMS-induced mutation rate. The effect of 1,4-DHP was more pronounced than that of the studied radioprotectors. It is concluded that dihydropyridine-type compounds are able to protect eukaryote germ cells from genetic damage produced by direct-acting mutagens such as EMS. Author-abstract.

290

AN 90003606. 90000.

AU Francis-A-R. Shetty-T-K. Bhattacharya-R-K.

IN Biochemistry Division, Bhabha Atomic Research Centre, Bombay India.

TI Modulating effect of plant flavonoids on the mutagenicity of N-methyl-N'-nitro-N-nitrosoguanidine.

SO Carcinogenesis. 1989 Oct. 10(10). P 1953-5.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Tests have been carried out with several plant flavonoids to detect their ability to suppress mutagenesis in *Salmonella typhimurium* strain TA100 NR induced by the direct-acting carcinogen N-methyl-N'-nitro-N-nitrosoguanidine. Among the most effective flavonoids are the isoflavone, biochanin A, the flavanone glycoside, naringin, and its aglycone, naringenin, and several flavonols, e.g. morin, fisetin, kaempferol, gossypetin and quercetin, including a flavonol glycoside, rutin. In particular, naringin possesses exceptional *antimutagenic* activity, in as much as, less than half the equimolar amount can reduce the mutagenic potency of this carcinogen by 50%. These flavonoids appear to act either by preventing passage of the carcinogen into bacterial cells or by altering some cellular processes. Author-abstract.

291

AN 90003565. 90000.

AU Ballerini-P. Franchi-A. Fuschiotti-P. Piccioni-D. Bonmassar-E.

IN Department of Experimental Medicine and Biochemical Sciences, Second University of Rome.

TI Two antiemetic regimens do not impair chemical xenogenization induced in vivo by 5-(3,3-dimethyl-1-triazeno)-imidazole-4-carboxamide.

SO Cancer-Chemother-Pharmacol. 1989. 24(6). P 359-62.

JT CANCER CHEMOTHERAPY AND PHARMACOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The possible interference with

5-(3,3-dimethyl-1-triazeno)-imidazole-4-carboxamide (DTIC)-mediated chemical xenogenization (CX) by antiemetic drugs was studied. DTIC was given alone or in combination with either dexamethasone or metoclopramide plus orphenadrine hydrochloride plus diazepam to CD2F1 mice bearing the histocompatible L1210 leukemia. Tumor cells were collected from treated animals and inoculated into histocompatible untreated and drug-treated recipients, for eight transplant generations. More than 50% of intact hosts rejected tumor cells between the fourth and sixth transplant generation, independently of antiemetic treatments. Positive controls treated with DTIC plus quinacrine (QC) confirmed that this *antimutagenic* compound entirely abrogates CX. The present results point out that the antiemetic regimens investigated in this study do not prevent CX. Since DTIC treatment requires intensive antiemetic support in man, these data are of clinical relevance for CX-oriented immunochemotherapy protocols. Author-abstract.

292

AN 89364932. 89000.

AU Watanabe-K. Ohta-T. Shirasu-Y.

IN Institute of Environmental Toxicology, Tokyo, Japan.

TI Enhancement and inhibition of mutation by o-vanillin in *Escherichia coli*.

SO Mutat-Res. 1989 Sep. 218(2). P 105-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB 2-Hydroxy-3-methoxybenzaldehyde (omicron-vanillin), the *antimutagenic* effect of which has been reported on mutagenesis induced by 4-nitroquinoline 1-oxide (4NQO) in *Escherichia coli* WP2s, enhanced N-methyl-N'-nitro-N-nitrosoguanidine (MNNG)-induced mutagenesis in the same strain. A remarkable enhancement of mutagenesis provoked by N-methyl-N-nitrosourea (MNU) was also observed by the addition of omicron-vanillin. No enhancing effect was observed on mutagenesis induced by other mutagens such as methyl methanesulfonate (MMS), dimethylsulfate, N-ethyl-N'-nitro-N-nitrosoguanidine (ENNG), N-ethyl-N-nitrosourea (ENU), ethyl methanesulfonate, diethylsulfate, 4NQO and furofurfuramide (AF-2). On the contrary, omicron-vanillin greatly suppressed AF-2- and 4NQO-induced mutagenesis and showed a slight suppressing effect against mutagenesis induced by MMS, ENNG and ENU. One possible explanation for the enhancing effect of omicron-vanillin on the mutagenesis induced by MNNG or MNU in *E. coli* WP2s may be inhibition of an inducible adaptive response. Among 7 derivatives of omicron-vanillin, 2-hydroxy-3-ethoxy-benzaldehyde, omicron-hydroxybenzaldehyde and m-methoxybenzaldehyde showed an enhancing effect on MNNG-induced mutagenesis. Author-abstract.

293

AN 89353702. 89000.

AU DeMarini-D-M. Lewtas-J. Brockman-H-E.

IN Genetic Toxicology Division, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711.

TI Utility of short-term tests for genetic toxicity.

SO Cell-Biol-Toxicol. 1989 Jun. 5(2). P 189-200.

JT CELL BIOLOGY AND TOXICOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB By definition, short-term tests (STTs) for genetic toxicity detect genotoxic agents, not carcinogens specifically. However, there is sufficient evidence, based on mechanistic considerations alone, to say that genotoxic agents are potential carcinogens. STTs have high statistical power, are almost always replicated, can be performed rather easily under various sets of experimental conditions, are relatively inexpensive, and detect a variety of endpoints relevant to carcinogenesis. In addition, several STTs have shown considerable utility in evaluating the genotoxic effects of real-world, environmental complex mixtures as well as the *antimutagenic* effects of various pure compounds and complex mixtures. STTs are likely to continue to be refined, resulting in STTs that are increasingly more relevant to human mutation and disease. Their utility should not be judged solely against the questionable standard of a rodent carcinogenicity assay. Author-abstract. 70 Refs.

294

AN 89344085. 89000.

AU Aprelikova-O-N. Golubovskaya-V-M. Kusmin-I-A. Tomilin-N-V.
IN Institute of Cytology, Academy of Sciences, Leningrad, U.S.S.R.
TI Changes in the size of pulse-labelled DNA fragments induced in human
cells by inhibitors of uracil-DNA glycosylase and DNA methylation.
SO Mutat-Res. 1989 Aug. 213(2). P 135-40.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB An inhibitor of uracil-DNA glycosylase, uracil, induces an increase
in the size of pulse-labelled DNA fragments in human cells in vivo
suggesting that dUMP incorporation into DNA and uracil-DNA
glycosylase contribute to the small size of pulse-labelled DNA. It
is also shown that inhibition of DNA methylation in vivo by ethionine
and 5-azacytidine induces a decrease in the size of pulse-labelled
DNA, and the effect is partially suppressed by uracil. In vitro
experiments with purified uracil-DNA glycosylase from human placenta
show that DNA hypermethylation inhibits the enzyme. The data make it
possible to explain the *antimutagenic* effect of ethionine in
mammalian cells: by stimulation of the repair of DNA containing
incorporated uracil on the basis of the hypothesis that DNA-uracil
repair stimulates mismatch correction leading to preferential
excision of misincorporated nucleotides from daughter DNA strands.
Author-abstract.

295

AN 89306041. 89000.
AU Bernd-A. Holzmann-H. Kurelec-B. Britivic-S. Muller-W-E.
TI `The cytotoxic and *antimutagenic* effect of dithranol:.
SO Dermatol-Monatsschr. 1989. 175(5). P 261-7.
PT JOURNAL-ARTICLE (ART).
AB The anti-psoriatic compound anthralin (dithranol, cignolin) was
determined to exhibit a strong cytostatic activity on HeLa-Koln
cells; an ED50 concentration of 1.2 microM was determined for the
cells. These growth-inhibition data were confirmed by
thymidine-uptake experiments. The drug anthralin was determined to
be neither direct a mutagen nor a premutagen in the Ames test using
Salmonella typhimurium strain TA 100 (anthralin-concentration = 5
microM). Moreover, this compound was a strong inhibitor of
benzo(a)pyrene monooxygenase, an enzyme which causes the metabolic
conversion of premutagens to mutagens. These data demonstrate
anthralin to be an antipsoriatic compound devoid of mutagenic
property in vitro with regard to base-pair substitutions and provided
at least with some *antimutagenic* potential. Author-abstract.

296

AN 89295495. 89000.
AU Wang-Z-Y. Cheng-S-J. Zhou-Z-C. Athar-M. Khan-W-A. Bickers-D-R.
Mukhtar-H.
IN Department of Dermatology, Case Western Reserve University,
Cleveland, OH 44106.
TI *Antimutagenic* activity of green tea polyphenols.

SO Mutat-Res. 1989 Jul. 223(3). P 273-85.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB For centuries green tea has been a widely consumed beverage throughout the world. It is known to contain a number of pharmacologically active compounds. In this study water extracts of green tea (WEGT) and their major constituents, green tea polyphenols (GTP), were examined for *antimutagenic* activity. WEGT and GTP were found to significantly inhibit the reverse mutation induced by benzo`alpha:pyrene (BP), aflatoxin B1 (AFB1), 2-aminofluorene, and methanol extracts of coal tar pitch in Salmonella typhimurium TA100 and/or TA98 in the presence of a rat-liver microsomal activation system. GTP also inhibited gene forward mutation in V79 cells treated with AFB1 and BP, and also decreased the frequency of sister-chromatid exchanges and chromosomal aberrations in V79 cells treated with AFB1. The addition of GTP during and after nitrosation of methylurea resulted in a dose-dependent inhibition of mutagenicity. Studies to define the mechanism of the *antimutagenic* activity of GTP suggest that it may affect carcinogen metabolism, DNA adduct formation, the interaction of ultimate carcinogen or the scavenging of free radicals. Author-abstract.

297

AN 89289683. 89000.

AU Knasmuller-S. de-Martin-R. Domjan-G. Szakmary-A.

IN Institute of Experimental Cancer Research, University of Innsbruck, Austria.

TI Studies on the *antimutagenic* activities of garlic extract.

SO Environ-Mol-Mutagen. 1989. 13(4). P 357-65.

JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Experiments with Salmonella tester strains indicated that aqueous garlic extract possesses *antimutagenic* properties toward ionizing radiation, peroxides, adriamycin, and N-methyl-N'-nitro-nitrosoguanidine. The assumption that radical scavenging garlic constituents, i.e., molecules with sulfur moieties, might be responsible for the inhibitory effect of aqueous extract toward mutagenesis induced by radiation and radiomimetic compounds was confirmed by the results of subsequent experiments; 1) garlic extract attenuated the lethal effects of gamma-rays on repair-deficient E. coli strains; 2) the garlic constituent allicin (thio-2-propene-1-sulfinic acid S-allyl ester) is partly responsible for the reduced radiation-induced mutagenesis in Salmonella typhimurium TA 102. No such inhibitory effects were detected with alliin (S-allyl-L-cysteine sulfoxide) or cysteine; 3) aqueous garlic extract inhibited hydrogen-peroxide-induced lipid peroxidation. Results obtained in preliminary experiments with Chinese hamster ovary cells suggest that the *antimutagenic* properties of garlic extract are not restricted to procaryotic cells. Author-abstract.

AN 89281156. 89000.

AU Padma-P-R. Amonkar-A-J. Bhide-S-V.

IN Carcinogenesis Division, Cancer Research Institute, Parel, Bombay, India.

TI *Antimutagenic* effects of betel leaf extract against the mutagenicity of two tobacco-specific N-nitrosamines.

SO Mutagenesis. 1989 Mar. 4(2). P 154-6.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Epidemiological studies have implicated chewing tobacco alone to be more hazardous than chewing tobacco with betel quid. Experimental studies have shown that betel leaf is *antimutagenic* against standard mutagens like benzo`a:pyrene and dimethylbenz`a:anthracene. Since the tobacco-specific N-nitrosamines (TSNA) are the only carcinogens present in unburnt forms of tobacco, including chewing tobacco, we tested the effect of an extract of betel leaf against the mutagenicity of the two important TSNA, viz., N'-nitrosonornicotine and 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone, using the Ames Salmonella/microsome assay with TA100 +S9 and the in vivo micronucleus test. In both the test systems it was observed that betel leaf extract suppressed the mutagenic effects of both the nitrosamines to a significant extent. Author-abstract.

AN 89281150. 89000.

AU Hannan-M-A. Al-Dakan-A-A. Aboul-Enein-H-Y. Al-Othaimeen-A-A.

IN Department of Biological and Medical Research, King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia.

TI Mutagenic and *antimutagenic* factor(s) extracted from a desert mushroom using different solvents.

SO Mutagenesis. 1989 Mar. 4(2). P 111-4.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB A desert mushroom called Al-faga (*Tirmania pinoyi*) was sequentially extracted with boiling water, chloroform and ethanol under reflux conditions. The water extract was freeze-dried while the organic solvents were fully evaporated to obtain residues, which were redissolved in dimethylsulphoxide and then tested for mutagenicity in the Ames assay using the Salmonella tester strains TA98 and TA100. The aqueous extract failed to show any mutagenic activity while the chloroform extract proved to be mutagenic with and without metabolic activation. The ethanol extract was not mutagenic in the same tests. However, ethanol extract combined with known carcinogens like benzo`a:pyrene or 7,12-dimethyl-benz`a:anthracene (with metabolic activation) inhibited the carcinogen-induced mutagenicity in a dose-dependent manner. These results show that both mutagens and *antimutagens* may be extracted from a single food item by using different solvents. Author-abstract.

300

AN 89275045. 89000.

AU Padma-P-R. Lalitha-V-S. Amonkar-A-J. Bhide-S-V.

IN Carcinogenesis Division, Cancer Research Institute, Tata Memorial Centre, Bombay, India.

TI Anticarcinogenic effect of betel leaf extract against tobacco carcinogens.

SO Cancer-Lett. 1989 Jun. 45(3). P 195-202.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Epidemiological studies have implicated that betel quid offers some protection to tobacco induced carcinogenesis. Earlier studies in our laboratory have shown betel leaf extract (BLE) to be *antimutagenic* against standard mutagens and tobacco-specific N'-nitrosamines (TSNA), N'-nitrosonornicotine (NNN) and 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK). In the present study, we have tested the anticarcinogenic effect of BLE using Swiss male mice. Two protocols of study were used to test this effect. In the first protocol, the effect of BLE was tested against the standard carcinogen benzo`a:pyrene (BP) using Wattenberg's stomach tumor model, Cancer Res., 41 (1981) 2820-2823. In this protocol, BLE inhibited the tumorigenicity of BP to a significant extent. In the second protocol, the effect of BLE against the two tobacco-specific nitrosamines, NNN and NNK was studied using long-term studies on Swiss male mice. The nitrosamines were administered on the tongues of the mice, while the BLE was supplied in drinking water. Two doses of NNN (22 mg and 72 mg) and one dose of NNK (22 mg) were used. In this study, it was observed that the number of tumor bearing animals decreased, but the difference was significant only in the group treated with the low dose of NNN in combination with BLE. However, in all the BLE treated animals, irrespective of the dose of nitrosamine, the hepatic vitamin A and C levels were elevated significantly as compared to the corresponding nitrosamine-treated controls. These results indicate that BLE has a promising anticarcinogenic role to play in tobacco induced cancer.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

301

AN 89275042. 89000.

AU Francis-A-R. Shetty-T-K. Bhattacharya-R-K.

IN Biochemistry Division, Bhabha Atomic Research Centre, Bamba, India.

TI Modification of the mutagenicity of aflatoxin B1 and N-methyl-N'-nitro-N-nitrosoguanidine by certain phenolic compounds.

SO Cancer-Lett. 1989 Jun. 45(3). P 177-82.

JT CANCER LETTERS.

PT JOURNAL-ARTICLE (ART).

AB Five natural and two synthetic phenolic compounds were tested for their ability to suppress mutagenicity of aflatoxin B1 (AFB1) and N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) in Salmonella typhimurium tester strain TA100. Caffeic acid and eugenol were observed to

inhibit mutagenicity of both the carcinogens, while chlorogenic acid was effective in the case of AFB1 alone and ellagic acid and butylated hydroxytoluene were found to be *antimutagenic* only for MNNG. These differential activities of the phenolic compounds appeared to be due to their different modes of action towards direct and indirect acting carcinogens. Author-abstract.

302

AN 89255075. 89000.

AU Foster-P-L. Sullivan-A-D. Franklin-S-B.

IN Division of Environmental Health, Boston University School of Public Health, Massachusetts 02118.

TI Presence of the dnaQ-rnh divergent transcriptional unit on a multicopy plasmid inhibits induced mutagenesis in Escherichia coli.

SO J-Bacteriol. 1989 Jun. 171(6). P 3144-51.

JT JOURNAL OF BACTERIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB In Escherichia coli the dnaQ+ gene, which encodes epsilon, a fidelity subunit of DNA polymerase III, and the rnh+ gene, which encodes RNase H, share a promoter region but are transcribed in opposite directions. The presence of this divergent transcriptional unit on a multicopy plasmid inhibited by as much as 10-fold mutations induced by the SOS-dependent mutagens methyl methanesulfonate and UV light. Mutations in either gene eliminated the effect, suggesting that both genes contribute either directly or indirectly to the *antimutagenic* phenotype. Neither survival to mutagen exposure nor induction of the SOS response was comparably affected by the presence of the genes. Although the *antimutagenic* phenotype was partially suppressed by excess UmuDC proteins, which are required for SOS mutagenesis, the presence of the dnaQ+-rnh+ clone also reduced the induction of mutations by N-methyl-N'-nitro-N-nitrosoguanidine in cells deficient for SOS mutagenic processing. The results suggest that the presence of the dnaQ+-rnh+ divergent transcriptional unit interferes with an underlying mutagenic mechanism that is normally facilitated by the proteins induced as part of the SOS response. Author-abstract.

303

AN 89237915. 89000.

AU Clarke-C-H. Shankel-D-M.

IN School of Biological Sciences, University of East Anglia, Norwich, UK.

TI *Antimutagenic* specificity against spontaneous and nitrofurazone-induced mutations in Escherichia coli K12ND160.

SO Mutagenesis. 1989 Jan. 4(1). P 31-4.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Escherichia coli K12ND-160 possesses characteristics which make it highly suitable for studies on *mutagenic/antimutagenic* specificity and has been used to investigate such effects for several agents. Nitrofurazone (NFZ) was used as a mutagen at non-lethal

concentrations; it causes mutation from fucose sensitivity to resistance (FucS----FucR) and from inability to utilize melibiose to melibiose utilization (Mel(-)----Mel+), but does not induce mutations from deoxygalactose sensitivity to resistance (DGAS----DGAR). Caffeine is mutagenic for reversions from lactose non-utilization to utilization (Lac(-)----Lac+) and mutations from FucS----FucR, but it is *antimutagenic* for mutations from 6-azauracil sensitivity to resistance (AzaUS----AzaUR) and Mel(-)----Mel+ reversions and produces no effect on spontaneous DGAS----DGAR mutations. Added guanosine and cytidine (G + C at 100 micrograms/ml each) exert *antimutagenic* activity against spontaneous Lac(-)----Lac+ reversion, but not against caffeine-induced Lac(-)----Lac+ reversions; a strong *antimutagenic* effect on spontaneous Mel(-)----Mel+ reversion is also observed. The addition of G + C does not result in either mutagenic or *antimutagenic* effects against spontaneous or NFZ-induced FucS----FucR or DGAS----DGAR mutations; it is, however, strongly mutagenic for AzaUS----AzaUR mutations. The 'natural *antimutagen',* chlorophyllin, is *antimutagenic* for DGAS----DGAR mutations, but fails to demonstrate such activity against spontaneous or caffeine-induced Lac(-)----Lac+ reversion, spontaneous or NFZ-induced Mel(-)----Mel+ reversion, or spontaneous or NFZ-induced FucS----FucR mutation.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

304

AN 89228110. 89000.

AU Marquardt-H. Westendorf-J. Schaefer-A. Boldt-J. De-Clercq-E. Marquardt-H.

IN Department of Toxicology, University Hamburg Medical School.

TI Mutagenic and *antimutagenic* effects of 5-substituted 2'-deoxyuridines depending on the nature of the 5-substituent.

SO Arzneimittelforschung. 1988 Dec. 38(12). P 1820-4.

JT ARZNEIMITTEL-FORSCHUNG.

PT JOURNAL-ARTICLE (ART).

AB Various 5-substituted pyrimidine 2'-deoxyribosides with anti-herpes activity were investigated for their genotoxic activity. 5-Iodo-2'-deoxycytidine (IDC), 5-(2-chloroethyl)-2'-deoxycytidine (CEDC), 5-(3-chloropropyl)-2'-deoxyuridine (CPDU), (E)-5-(2-bromovinyl)-2'-deoxyuridine (BVDU), 5-ethyl-2'-deoxyuridine (EDU), 2'-deoxyuridine (DU) and 2'-deoxythymidine (DT) were non-mutagenic in Salmonella typh. as well as in V79 Chinese hamster cells, 5-Iodo-2'-deoxyuridine (IDU) was moderately mutagenic and 5-(2-chloroethyl)-2'-deoxyuridine (CEDU) was highly mutagenic in V79 cells; neither IDU nor CEDU were mutagenic in the bacterial assay. None of the compounds induced unscheduled DNA synthesis in primary rat hepatocytes. In addition, *antimutagenic* effects of 2'-deoxyuridines were discovered: in V79 cells, BVDU, EDU, DU and DT prevented the mutagenicity induced by CEDU; in these cells EDU also inhibited the mutagenicity induced by MNNG. In primary rat hepatocytes, IDU and EDU inhibited the induction of unscheduled DNA synthesis induced by MNNG, DMBA or UV-light. The compounds were

inactive at inducing differentiation in hematopoietic cells. The significance of these data, particularly with regard to the use of 5-substituted 2'-deoxyuridines in anti-herpes therapy, is discussed. Author-abstract.

305

AN 89177283. 89000.

AU Wall-M-E. Wani-M-C. Gaetano-K. Manikumar-G. Taylor-H. McGivney-R.

IN Research Triangle Institute, Research Triangle Park, North Carolina 27709.

TI Plant *antimutagenic* agents, 4. Isolation and structure elucidation of maesol, an inactive constituent of *Maesa* spp.

SO J-Nat-Prod. 1988 Nov-Dec. 51(6). P 1226-31.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART).

AB Maesol, a novel dimeric phenol, was isolated from seeds of *Maesa montana* and *Maesa indica*. Maesol was shown to have the formula C₂₈H₄₂O₄ with structure 1, a dimeric, symmetrical 1,12-bis(3,3'-dihydroxy-4,4'-dimethyl-5,5'-dimethoxyphenyl)dodecane. It is the first compound with such structure to be isolated from plant material. Structure elucidation was based largely on ¹H- and ¹³C-nmr techniques and comparison with a known synthetic isomeric dimer 3. Although crude extracts showed strong inhibition of 2-aminoanthracene activity against *Salmonella typhimurium* (T-98), the pure compound was inactive when tested for inhibition of the mutagenic activity of several mutagens. Author-abstract.

306

AN 89177277. 89000.

AU Wall-M-E. Wani-M-C. Manikumar-G. Hughes-T-J. Taylor-H. McGivney-R. Warner-J.

IN Research Triangle Institute, Research Triangle Park, North Carolina 22709.

TI Plant *antimutagenic* agents, 3. Coumarins.

SO J-Nat-Prod. 1988 Nov-Dec. 51(6). P 1148-52.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART).

AB Several coumarins were isolated from crude plant extracts by means of an *antimutagenic* assay procedure. These coumarins included psoralen from *Psoralea corylifolia* and imperatorin and osthol from *Selinum monniere*. Studies of structure-activity relationships of these and several other available coumarins were carried out with four mutagens. All of the coumarins were nontoxic and in particular showed high activity in the inhibition of the mutagenicity of benzo(a)pyrene. Author-abstract.

307

AN 89177274. 89000.

AU Wall-M-E. Wani-M-C. Manikumar-G. Abraham-P. Taylor-H.

Hughes-T-J. Warner-J. McGivney-R.

IN Research Triangle Institute, Research Triangle Park, North Carolina 22709.

TI Plant *antimutagenic* agents, 2. Flavonoids.

SO J-Nat-Prod. 1988 Nov-Dec. 51(6). P 1084-91.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART).

AB A number of known prenylated flavonoids were isolated from *Psoralea corylifolia* using an assay procedure based on inhibition of the mutagenic action of 2-aminoanthracene on *Salmonella typhimurium* (T-98). All of these compounds were toxic rather than *antimutagenic* or desmutagenic. Bakuchiol `17:, a known prenylated phenolic terpene, was also isolated; its activity was not due to toxicity. Biochanin A `4:, a known isoflavone, was similarly isolated from *Cicer arietinum* and was active and nontoxic. Some of the above flavonoids were studied for inhibition of the mutagenicity of several different mutagens with results depending upon the structure of the flavonoid and the mutagen. Author-abstract.

308

AN 89161129. 89000.

AU Grdina-D-J. Nagy-B. Hill-C-K. Sigdestad-C-P.

IN Division of Biological and Medical Research, Argonne National Laboratory, Illinois 60439-4833.

TI Protection against radiation-induced mutagenesis in V79 cells by 2-(aminopropyl)amino: ethanethiol under conditions of acute hypoxia.

SO Radiat-Res. 1989 Feb. 117(2). P 251-8.

JT RADIATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The effects of the radioprotector 2-(aminopropyl)amino: ethanethiol (WR-1065) on radiation-induced cell killing and mutagenesis at the hypoxanthine-guanine phosphoribosyl transferase (HGPRT) locus in V79 Chinese hamster cells under hypoxic or aerobic conditions were examined. Conditions of acute hypoxia were attained by gassing 10(6) cells in 1-ml volumes in individual glass ampoules for 2 min with nitrogen. Ampoules were then sealed and incubated at 37 degrees C for 60 min. Following this treatment, cell survival after irradiation as expected was significantly enhanced. The effect of acute hypoxia on the formation of HGPRT mutants by irradiation was also investigated. Mutation frequencies were determined with a 6-day expression time and corrected for the number of spontaneous background mutants. Although mutation induction was approximately linear as a function of radiation dose under most conditions tested, it was significantly reduced in cell populations made acutely hypoxic prior to irradiation. Protection against mutation induction was apparent and similar when cells were irradiated in the presence of the radioprotector, regardless of whether they were also hypoxic or aerated. If cells were irradiated in air and then made hypoxic, no significant protection was still observed. These results suggest that the *antimutagenic* effect of WR-1065 is not due solely to its

ability to scavenge radiation-induced oxygen-free radicals, but rather that it may also modulate these effects through the scavenging of metabolically induced free radicals and/or the chemical repair of radiation-induced DNA lesions. Author-abstract.

309

AN 89159282. 89000.

AU Ghaskadbi-S. Vaidya-V-G.

IN Department of Zoology, M.A.C.S. Research Institute, Pune, India.

TI In vivo *antimutagenic* effect of ascorbic acid against mutagenicity of the common antiamebic drug diiodohydroxyquinoline.

SO Mutat-Res. 1989 Mar. 222(3). P 219-22.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB We have previously shown that the common antiamebic drug diiodohydroxyquinoline (DIHQ) exhibits mutagenic activity in the in vivo micronucleus test in Swiss albino mice. Results of experiments undertaken to study the influence of ascorbic acid (vitamin C) on the mutagenicity of DIHQ in this model system showed that ascorbic acid acts as an *antimutagen* against DIHQ. The effective *antimutagenic* doses of ascorbic acid themselves do not show any genotoxic effects in this in vivo system. It will be necessary, however, to elucidate the mechanism of action of ascorbic acid as well as its effects on the therapeutic properties of DIHQ before a practical use of ascorbic acid is contemplated for this purpose. Author-abstract.

310

AN 89159274. 89000.

AU Bala-S. Grover-I-S.

IN School of Life Sciences, Guru Nanak Dev University, Amritsar, India.

TI Antimutagenicity of some citrus fruits in Salmonella typhimurium.

SO Mutat-Res. 1989 Mar. 222(3). P 141-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The *antimutagenic* effect of 10 citrus fruit juices was observed against the mutagenicity of N-nitro-o-phenylenediamine (NPD) in TA97a and sodium azide in TA100 tester strains of Salmonella typhimurium using the Ames test. It was noticed that the juices of all these fruits reduced significantly the NPD and sodium azide induced revertant colonies. The inhibitory activity was enhanced if the mutagen and juice were co-incubated for about 30 min at 37 degrees C prior to performing the mutagenicity assay. Dilution with distilled water led to the reduction in the inhibitory activity. The *antimutagenic* activity of synthetic ascorbic acid or citric acid or combined ascorbic acid and citric acid was also seen. But the results with fruit juices tempted us to believe that in addition to ascorbic acid and citric acid, the presence of other factor(s) possessing *antimutagenic* properties cannot be ruled out. Author-abstract.

311

AN 89146969. 89000.
AU Aliev-A-A. Dzhaferova-S-D. Medzhidov-M-M. Asadova-A-I.
Alekperov-U-K.
TI `Study of the phenomenon and substantiation of the mechanism of
antimutagenesis under conditions of action of sodium fluoride:.
SO Tsitol-Genet. 1988 Sep-Oct. 22(5). P 22-5.
JT TSITOLOGIJA I GENETIKA.
PT JOURNAL-ARTICLE (ART).
AB Transplanted human amnion cells have been used in experiments
differing in the regularity of the sodium fluoride and
alpha-tocopherol action to determine a considerable *antimutagenic*
efficiency of the mutagenic process modifier, the efficiency being
dependent on the treatment variability. Author-abstract.

312

AN 89137063. 89000.
AU Katz-A-J.
IN Department of Biological Sciences, Illinois State University, Normal
61761.
TI Sodium thiosulfate inhibits cisplatin-induced mutagenesis in somatic
tissue of Drosophila.
SO Environ-Mol-Mutagen. 1989. 13(2). P 97-9.
JT ENVIRONMENTAL AND MOLECULAR MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).
AB The antitumor agent cisplatin was evaluated for genotoxicity in the
somatic tissue of Drosophila melanogaster in combination with the
nucleophilic compound sodium thiosulfate (STS). Third instar larvae
transheterozygous for mwh and flr3 were grown on media containing (1)
water, (2) 200 mM STS, (3) 0.05 mM cisplatin in 200 mM STS, or (4)
0.05 mM cisplatin. Wings of surviving adults were scored for the
presence of twin spots and both small and large single spots; 200 mM
STS was nongenotoxic in the assay. Whereas 0.05 mM cisplatin
significantly induced all three endpoints, 0.05 mM cisplatin in
combination with 200 mM STS was found to have no genotoxic activity.
Hence, STS possessed *antimutagenic* activity in the wing-spot assay
and completely inhibited cisplatin-induced mutagenesis and mitotic
recombination. Author-abstract.

313

AN 89130421. 89000.
AU Whong-W-Z. Stewart-J. Brockman-H-E. Ong-T-M.
IN Division of Respiratory Disease Studies, National Institute for
Occupational Safety and Health, Morgantown, West Virginia 26505.
TI Comparative antimutagenicity of chlorophyllin and five other agents
against aflatoxin B1-induced reversion in Salmonella typhimurium
strain TA98.
SO Teratogenesis-Carcinog-Mutagen. 1988. 8(4). P 215-24.
JT TERATOGENESIS, CARCINOGENESIS, AND MUTAGENESIS.
PT JOURNAL-ARTICLE (ART).

AB Chlorophyllin was studied for its *antimutagenic* activity against aflatoxin B1 in Salmonella typhimurium strain TA98 using the plate-incorporation test in the presence of S9 activation. Comparative antimutagenicity between chlorophyllin and certain commonly studied *antimutagens* (i.e., vitamins A, C, and E, retinoic acid, and beta-carotene) was also examined. A dose-related inhibition of aflatoxin B1 mutagenicity by chlorophyllin was observed, with the mutagenicity being abolished by 860 nmole chlorophyllin per plate. The inhibitory activity of chlorophyllin occurred only when cells were treated concurrently with chlorophyllin and aflatoxin B1. The *antimutagenic* potency of chlorophyllin was comparable to that of vitamin A and higher than that of retinoic acid and beta-carotene. Vitamins C and E had no effect on aflatoxin B1 mutagenicity under the conditions used. The results of toxicity tests and a reconstruction experiment showed that inhibition of the mutagenicity of aflatoxin B1 by chlorophyllin and the other active agents was due to antimutagenicity. Author-abstract.

314

AN 89106392. 89000.

AU Wang-Z-Y. Khan-W-A. Bickers-D-R. Mukhtar-H.

IN Department of Dermatology, University Hospitals of Cleveland, OH.

TI Protection against polycyclic aromatic hydrocarbon-induced skin tumor initiation in mice by green tea polyphenols.

SO Carcinogenesis. 1989 Feb. 10(2). P 411-5.

JT CARCINOGENESIS.

PT JOURNAL-ARTICLE (ART).

AB Green tea is a popular beverage in China and Asia and has been shown to possess antipyretic, diuretic and several other pharmacological activities. The major constituents of green tea are polyphenols which have been found to possess antioxidant and *antimutagenic* properties. In this study green tea polyphenols (GTP) were evaluated as an anti-initiating agent against the skin tumorigenicity induced by polycyclic aromatic hydrocarbons (PAHs) in mice. In a complete skin tumorigenesis protocol using 3-methylcholanthrene the topical application of GTP to female BALB/c mice resulted in substantial protection against the onset and subsequent development of tumors. In the two-stage skin tumorigenesis protocol using 7,12-dimethylbenz`a:anthracene (DMBA) as the initiating agent followed by twice weekly applications of 12-O-tetradecanoylphorbol-13-acetate; (TPA) as tumor promoter, topical application of GTP to female SENCAR mice afforded significant protection against skin tumorigenicity. Oral feeding of GTP in drinking water to female SENCAR mice also protected against skin tumorigenesis in DMBA - TPA-treated animals. GTP when administered topically or orally significantly inhibited PAH - DNA adduct formation in epidermis after topical application of `3H:benzo`a:pyrene or `3H:DMBA. Our results suggest that GTP has substantial anti-skin-tumor-initiating activity against PAHs and could prove useful in protecting against some forms of human cancer.

Author-abstract.

315

AN 89097066. 89000.

AU Ong-T. Whong-W-Z. Stewart-J-D. Brockman-H-E.

IN Division of Respiratory Disease Studies, National Institute for Occupational Safety and Health, Morgantown, WV 26505-2888.

TI Comparative antimutagenicity of 5 compounds against 5 mutagenic complex mixtures in Salmonella typhimurium strain TA98.

SO Mutat-Res. 1989 Jan. 222(1). P 19-25.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Using the Ames Salmonella/microsome assay, we compared the *antimutagenic* activities of chlorophyllin, retinol, beta-carotene, vitamin C, and vitamin E against solvent extracts of coal dust, diesel emission particles, airborne particles, fried beef, and tobacco snuff. The results show that chlorophyllin inhibited 69% of the mutagenic activity of tobacco snuff and over 90% of that of the other 4 complex mixtures. Retinol inhibited 29-48% of the mutagenic activity of all 5 complex mixtures. beta-Carotene, vitamin C, and vitamin E inhibited, if any, less than 39% of the activity of the complex mixtures studied. Vitamin C enhanced the mutagenicity of airborne particles. These results indicate that for these dietary and environmental complex mixtures chlorophyllin is a more effective *antimutagen* than retinol, beta-carotene, vitamin C, and vitamin E.
Author-abstract.

316

AN 89097031. 89000.

AU Amonkar-A-J. Padma-P-R. Bhide-S-V.

IN Cancer Research Institute, Tata Memorial Centre, Parel, Bombay, India.

TI Protective effect of hydroxychavicol, a phenolic component of betel leaf, against the tobacco-specific carcinogens.

SO Mutat-Res. 1989 Feb. 210(2). P 249-53.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The phenolic compound, hydroxychavicol (HC), present in betel leaf, was synthesised and tested for its *antimutagenic* effect against the mutagenicity of the 2 tobacco-specific N-nitrosamines (TSNA), N'-nitrosonornicotine (NNN) and 4-(nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK), in 2 different test systems, viz. the Ames Salmonella/microsome assay and the micronucleus test using Swiss male mice. We are reporting the synthesis of HC of a high degree of purity. We observed that HC suppressed the mutagenic effects of NNN and NNK in both test systems used. These results indicate that HC may have a role to play in reducing the risk of oral cancer in betel quid with tobacco chewers.
Author-abstract.

317

AN 89092167. 89000.

AU Ayrton-A-D. Ioannides-C. Walker-R.

IN Department of Biochemistry, University of Surrey, Guildford, England.

TI Induction of rat hepatic cytochrome P-450 I proteins by the
antimutagen anthraflavic acid.

SO Food-Chem-Toxicol. 1988 Nov-Dec. 26(11-12). P 909-15.

JT FOOD AND CHEMICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Administration of the *antimutagen* anthraflavic acid to rats gave rise to significant increases in the hepatic microsomal O-deethylations of ethoxyresorufin and ethoxycoumarin, but not in the O-dealkylation of pentoxyresorufin nor in cytosolic glutathione S-transferase activity. Immunoblot studies of solubilized microsomes from anthraflavic acid-treated rats revealed that anthraflavic acid induced the apoproteins P-450 I A1 and A2 but not P-450 B1 and B2. Pretreatment with anthraflavic acid resulted in a marked increase in the in vitro bioactivation of 2-amino-6-methyldipyrido`1,2-a:3',2'-d:imidazole and 2-amino-3,2-amino-3-methylimidazomethylimidazo`4,5-f:-quinoline (IQ) to mutagenic intermediate(s); IQ is a carcinogen against which anthraflavic acid has displayed strong *antimutagenic* effect in the Ames test when incorporated into the metabolic activation system. The increase in mutagenicity of IQ was the result of enhancement of both the microsomal and cytosolic activation steps. It is concluded that anthraflavic acid is a specific inducer of P-450 I proteins in the rat and this compound is not only unlikely to exhibit any anticarcinogenic effect in vivo but may act as a co-carcinogen. Author-abstract.

318

AN 89080711. 89000.

AU Wall-M-E. Wani-M-C. Hughes-T-J. Taylor-H.

IN Research Triangle Institute, North Carolina 27709.

TI Plant *antimutagenic* agents, 1. General bioassay and isolation procedures.

SO J-Nat-Prod. 1988 Sep-Oct. 51(5). P 866-73.

JT JOURNAL OF NATURAL PRODUCTS.

PT JOURNAL-ARTICLE (ART).

AB An *antimutagenic* assay in Salmonella typhimurium has been utilized for a study of the inhibition of the mutagenic activity of 2-aminoanthracene in the presence of the Ames S-9 metabolic activation preparation by crude organic solvent extracts of plant materials. More than 2000 extracts representing 39 families have been tested to date. Confirmed inhibitory activity has been found in 80 samples. More than 60% were nontoxic. Methods for isolation and characterization of pure compounds are presented. Of particular interest is the utilization of large scale preparative hplc for rapid purification of inhibitory chromatographic fractions that were still highly impure. Author-abstract.

AN 89065925. 89000.

AU Hayatsu-H. Hayatsu-T. Zheng-Q-L. Ohara-Y. Arimoto-S.

IN Faculty of Pharmaceutical Sciences, Okayama University, Japan.

TI Problems in monitoring mutagenicity of human urine.

SO IARC-Sci-Publ. 1988. (89). P 401-4.

JT IARC SCIENTIFIC PUBLICATIONS.

PT JOURNAL-ARTICLE (ART).

AB Blue-cotton (-rayon) adsorbable fractions of human urines were examined for mutagenicity in *Salmonella typhimurium* TA98 with metabolic activation. Ingestion of cooked beef caused significant increases in urinary mutagenicity that were comparable to that caused by cigarette smoking. When a sample obtained after ingestion of cooked beef was passed through a carboxymethyl cellulose column, the mutagenicity of the eluate was found to be almost one order of magnitude greater than that of the original sample, suggesting the presence of *antimutagenic* factors in the sample. The oleic acid content of the sample was not great enough to account for this phenomenon. Other urine samples subjected to column fractionation were found to contain the putative *antimutagenic* factors. This finding further confounds the monitoring of urinary mutagenicity. Author-abstract.

AN 89057031. 89000.

AU Kuroda-Y. Inoue-T.

IN National Institute of Genetics, Shizuoka, Japan.

TI Antimutagenesis by factors affecting DNA repair in bacteria.

SO Mutat-Res. 1988 Dec. 202(2). P 387-91.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The term *'antimutagen'* was originally used to describe an agent that reduces the apparent yield of spontaneous and/or induced mutations, regardless of the mechanisms involved. The *'antimutagens'* include 'desmutagens' and *'bio-antimutagens'*. In this article, our attention was focused on the *bio-antimutagens* affecting DNA repair in bacteria. Cobaltous chloride reduced the frequency of mutations in *Escherichia coli* induced by MNNG. The possibility that metal compound inhibits the growth of mutagen-treated cells was examined. The results clearly showed that the *antimutagen* surely reduces the mutation rate. The target of cobaltous chloride was found to be cellular factors including Rec A. Vanillin and cinnamaldehyde had strong *antimutagenic* activities against UV, 4NQO and AF-2. They stimulated Rec A-dependent recombination repair functions in the mutagen-treated cells. Among plant materials, tannins possess *antimutagenic* activity against UV-induced mutations in *E. coli*. It has been found that tannic acid stimulates the excision repair encoded by the *uvrA* gene thereby reducing the yield of mutants. Substances which are *antimutagenic* in bacterial systems also had *antimutagenic* activity in cultured mammalian cell systems. Vanillin reduced the frequency of

mutagen-induced chromosomal aberrations. Author-abstract. 16 Refs.

321

AN 89057027. 89000.

AU Oesch-F.

IN Institute of Toxicology, University of Mainz, F.R.G.

TI Antimutagenesis by shift in monooxygenase isoenzymes and induction of epoxide hydrolase.

SO Mutat-Res. 1988 Dec. 202(2). P 335-42.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The widely occurring aromatic and olefinic structural elements can be transformed into epoxides by microsomal monooxygenases. These epoxides may react with nucleophilic centers in the cell and thereby covalently bind to DNA, RNA and protein. Such a reaction may lead to cytotoxicity, allergy, mutagenicity and/or carcinogenicity, depending on the properties of the epoxide in question. An important contributing factor is the presence and relative activity of enzymes controlling the concentration of such epoxides. There are several microsomal monooxygenases which differ in activity and substrate specificity. On individual substrates individual cytochromes P-450 often preferentially attack at one specific site different from that attacked by others. Some of these pathways lead to reactive products, others are detoxification pathways. Also important are the enzymes which metabolize epoxides, such as epoxide hydrolases and glutathione transferases. Such enzymes can act as inactivating and in some specific cases also as co-activating enzymes. Moreover, precursor-sequestering enzymes such as dihydrodiol dehydrogenase, glucuronosyl transferases and sulfotransferases are important for the control of reactive epoxides. These enzymes themselves are subject to control by many endogenous and exogenous factors. By virtue of their contribution to the control of mutagenic metabolites such modulators can exert *antimutagenic* activity. An especially interesting *antimutagen,* whose mechanism of *antimutagenic* action is modulation of mutagen-metabolizing enzymes, is trans-stilbene oxide. This agent selectively induces the synthesis of some specific cytochrome P-450 isoenzymes at the expense of others, so that the metabolism of benzo`a:pyrene is shifted from the route leading to the highly mutagenic 7,8-dihydrodiol 9,10-epoxides to the route leading to the much less mutagenic 4,5-epoxide. Moreover, the same agent potently induces microsomal epoxide hydrolase which inactivates the latter epoxide. The combined effects lead to a drastic *antimutagenic* effect, the molecular mechanism of which is given by these changes in mutagen-metabolizing enzymes. Author-abstract. 39 Refs.

322

AN 89039973. 89000.

AU Clarke-C-H. Shankel-D-M.

IN School of Biological Sciences, University of East Anglia, Norwich, Norfolk, Great Britain.

TI *Antimutagens* against spontaneous and induced reversion of a lacZ frameshift mutation in E. coli K-12 strain ND-160.
SO Mutat-Res. 1988 Nov. 202(1). P 19-23.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Isopropyl-beta-D-thiogalactoside (IPTG), at 0.5 or 1.0 mM, is shown to reduce spontaneous, and to virtually abolish caffeine- or quinacrine-induced reversions of the lacZ frameshift mutation in E. coli ND160. Guanosine at 200 micrograms/ml and Co2+ at 15 micrograms/ml had an erratic partial *antimutagenic* effect on spontaneous lac+ reversions. All 3 agents reduce caffeine-induced (500 micrograms/ml) mutagenesis. Spermine (250 micrograms/ml) also reduces quinacrine-induced Lac+ reversion frequencies in this system. Author-abstract.

323

AN 89024478. 89000.
AU Hill-M. Hillova-J. Mariage-Samson-R. Brada-Z.
IN Laboratory of Cellular and Molecular Biology, C.N.R.S., I.C.I.G., Hopital Paul-Brousse, Villejuif, France.
TI *Antimutagenic* action of methionine in Chinese hamster fibroblasts: an opposite of methionine mutagenicity.
SO Anticancer-Res. 1988 Jul-Aug. 8(4). P 701-5.
JT ANTICANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB Serially propagated fibroblast clones were treated with 25-mM methionine and a thioguanine resistance assay was performed at each passage to measure mutagenesis at the HGPRT locus. The spontaneous frequency of thioguanine resistant mutants before treatment was less than 5×10^{-6} in four clones and 22×10^{-6} in one clone. These values dropped 10- to 100-fold and remained so until the methionine was withdrawn, then returned to, or overshoot, the initial values. It is proposed that these fibroblasts, unlike their previously described RSV-transformed counterparts, possess a repair enzyme capable of an adaptive response to S-adenosylmethionine, the metabolite thought to be responsible for methionine mutagenicity in vivo. Author-abstract.

324

AN 89014534. 89000.
AU Peryt-B. Mioszewska-J. Tudek-B. Zielenska-M. Szymczyk-T.
IN Department of Biochemistry, Medical Academy, Warsaw, Poland.
TI *Antimutagenic* effects of several subfractions of extract from wheat sprout toward benzo(a)pyrene-induced mutagenicity in strain TA98 of Salmonella typhimurium.
SO Mutat-Res. 1988 Oct. 206(2). P 221-5.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The aqueous extract from wheat sprouts contains some *antimutagenic* factor(s). The factor(s) abolish(es) the activity of aryl

hydrocarbon (benzo`a:pyrene) hydroxylase (AHH) in the S9 fraction from Aroclor-treated rat livers and also inhibit(s) the mutagenic activity of benzo`a:pyrene (B(a)P) in the Ames test. The extract (fraction S30) was subjected to initial fractionation by thermal treatment, 3 24-h cycles of dialysis and ultrafiltration. The antigenotoxic activity of fraction S30 amounted to 98% and was unchanged by thermal treatment (100 degrees C, 10 min). Both the dialysate and the dialysis fluid inhibited the mutagenic effect of B(a)P by 48.4 and 48% respectively. The microsomal subfraction inhibited the mutagenicity only in 10%, and the postmicrosomal subfraction in 68%. It is concluded that the extract from wheat sprouts contains at least 2 heat-resistant compounds (or groups of compounds) located within the cell cytosol and showing *antimutagenic* activity: one group is of low molecular weight and another of high MW. Alternatively, low-molecular compounds could either be free or bound to high-molecular compound(s). Author-abstract.

325

AN 89014531. 89000.

AU Schimmer-O. Hafele-F. Kruger-A.

IN Institut fur Botanik und Pharmazeutische Biologie, Universitat Erlangen-Nurnberg, F.R.G.

TI The mutagenic potencies of plant extracts containing quercetin in Salmonella typhimurium TA98 and TA100.

SO Mutat-Res. 1988 Oct. 206(2). P 201-8.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Four commercial ethanolic plant extracts, Tinctura Alchemillae, Extractum Crataegi, Extractum Myrtilli and Tinctura Hyperici, were tested for their mutagenicity in Salmonella typhimurium TA98 and TA100 with and without S9 mix obtained from rats pretreated with phenobarbital. The extracts studied differed greatly in their mutagenic potencies but exhibited a very similar mutation pattern in which the strongest effect was always seen in tester strain TA98 with S9 mix. Simultaneously we investigated the extracts for the presence of quercetin and kaempferol. Only quercetin was detected in small amounts by thin-layer chromatography (TLC). The fractions containing quercetin were separated and collected using a Sephadex LH-20 column. Two different methods were employed to estimate the amount of quercetin in the extracts: a colorimetric assay developed by Christ and Muller, and a complexometric method by Belikov. The quercetin concentrations ranged between 2 mg (Tinctura Alchemilla) and 89 mg (Tinctura Hyperici) per 100 g of extract. We suggest that the mutagenicity of the 4 plant extracts is mainly due to the presence of quercetin for the following reasons: (1) all the plant extracts exhibit a mutation pattern which is very similar to that of quercetin, (2) the mutagenic potential of the extracts correlates well with their quercetin content, considering the fact that plant extracts are very complex mixtures often containing toxic or *antimutagenic* compounds. Author-abstract.

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1

AN 94116821. 94044.

AU Stepanova-E-I. Kondrashova-V-G. Davidenko-O-A. Kniazeva-O-B.
Galichanskaia-TIa.

TI `The hematological effects of the *Chernobyl* accident in children:.

SO Gematol-Transfuziol. 1992 Jul-Aug. 37(7-8). P 31-3.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A total of 878 children from the regions with unfavourable radiation situation were investigated in varying periods after the catastrophe. The data obtained were compared with the results of the study of 317 children from "pure" regions. Morphological, metabolic and ultrastructural changes were detected in blood cells of the children from radioactively contaminated regions after the *Chernobyl* catastrophe. A tendency to normalization of these parameters was noted in the time course of the post-catastrophe period. No clear relationship was established between the dose and effect. However, significant correlations between the severity of disorders in blood cells and the intensity of free-radical processes in the body were recorded. Author-abstract.

2

AN 94115351. 94044.

AU Fletcher-J-J.

IN Tajoura Research Centre, Libya.

TI Doses from radiocesium and 40K activities found in some tobacco leaves and cigarettes.

SO Appl-Radiat-Isot. 1994 Jan. 45(1). P 133-4.

JT APPLIED RADIATION AND ISOTOPES.

PT JOURNAL-ARTICLE (ART).

AB It has been found that tobacco leaves and cigarettes contain on the average 1.30 ± 0.40 Bq.g⁻¹ of 40K which is a beta-gamma emitter. Besides due to the unfortunate *Chernobyl* accident tobacco leaves may contain 0.04 Bq.g⁻¹ of 137Cs and 0.01 Bq.g⁻¹ of 134Cs depending on their country of origin. From these activities, the annual dose equivalents and the 50 year committed dose equivalents from ingested and inhaled 134Cs, 137Cs and 40K through tobacco consumption are presented. Author-abstract.

3

AN 94115349. 94044.

AU Nakajima-T.

IN Division of Radioecology, National Institute of Radiological

Sciences, Nakaminato-shi, Japan.

TI Estimation of absorbed dose to evacuees at pripyat-city using ESR measurements of sugar and exposure rate calculations.

SO Appl-Radiat-Isot. 1994 Jan. 45(1). P 113-20.

JT APPLIED RADIATION AND ISOTOPES.

PT JOURNAL-ARTICLE (ART).

AB The external absorbed doses in Pripyat-city resulting from the *Chernobyl* nuclear power plant accident have been evaluated from eight ordinary granulated sugar samples using the electron spin resonance method. The indoor and outdoor external doses to the people evacuated from Pripyat-city at about 36 h after the *Chernobyl* accident have been estimated using both data from the eight household sugar samples present in Pripyat-city prior to and during the accident and information on the type of buildings and survey-meter measurements of the exposure rates there. The absorbed dose to the evacuated people, as estimated from the exposure rates calculated in combination with the sugar dosimetry data, agree approximately with the reported average effective dose equivalent to such people, which was derived from both calculations and exposure-rate surveys. If each person in Pripyat-city could remember exactly the proportion of time spent indoors before being evacuated after the accident, the absorbed dose could roughly be estimated from the relationship between the documented external dose outdoors during the period between the accident and evacuation and the length of the period spent indoors by each individual prior to evacuation. It is suggested that as little as 1 g of sugar would be one of the most useful emergency dosimeters for people inside their dwellings, at least for absorbed doses greater than about 0.02 Gy.

Author-abstract.

4

AN 94110074. 94043.

AU Likhtarev-I-A. Gulko-G-M. Kairo-I-A. Henrichs-K. Paretzke-H-G.

IN Ukrainian Scientific Center of Radiation Medicine, Kiev.

TI Thyroid doses resulting from the Ukraine *Chernobyl* accident--Part I: Dose estimates for the population of Kiev.

SO Health-Phys. 1994 Feb. 66(2). P 137-46.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB In the context of the radiation exposure of the Ukrainian population resulting from the *Chernobyl* accident, the quantification of the thyroid doses due to iodine incorporation is of special interest. This first part of a series of planned publications deals with the dose and risk estimation for Kiev citizens. Although these doses are expected to be considerably lower than those for some other regions of Ukraine, the investigations started with this population because the quantification of the thyroid doses due to iodine incorporation is of special interest. This first part of a series of planned publications deals with the dose and risk estimation for Kiev citizens. Although these doses are expected to be considerably lower

than those for some other regions of Ukraine, the investigations started with this population because of the availability of rather reliable measurements and because of the size of this population. The methods developed allowed the estimation of individual thyroid doses. The average values of individual thyroid doses for five age groups (birth years 1983-1986, 1979-1982, 1975-1978, 1971-1974, and < 1971) are 104, 62, 19, 18, and 41 mGy, respectively. The collective thyroid doses were estimated as 83×10^3 person-Gy for those born before 1971 and as 38×10^3 person-Gy for younger inhabitants. The numbers of expected thyroid cancers in the whole Kiev population are 66 and 130, respectively. Author-abstract.

5

AN 94109608. 94043.

AU Yamashita-S. Namba-H. Nagataki-S.

IN Department of Cell Physiology, Nagasaki University School of Medicine.

TI `Thyroid and radiation:.

SO Nippon-Naibunpi-Gakkai-Zasshi. 1993 Nov 20. 69(10). P 1035-43.

JT NIPPON NAIBUNPI GAKKAI ZASSHI. FOLIA ENDOCRINOLOGICA JAPONICA.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The topic "Thyroid and Radiation" is both an old and a new area to be solved by human beings. The thyroid is an organ that is usually susceptible to exposure to ionizing radiation, both by virtue of its ability to concentrate radioiodine (internal radiation) and by routine medical examination: Chest X-ray, Dental X-ray, X-irradiation of cervical lymphnodes etc. (external radiation). Iodine-131 is widely used for the therapy of Graves' disease and thyroid cancers, of which the disadvantage is radiation-induced hypothyroidism but not complications of thyroid tumor. The thyroid gland is comparatively radioresistant, however, the data obtained from Hiroshima, Nagasaki and Marshall islands indicates a high incidence of external radiation-induced thyroid tumors as well as hypothyroidism. The different biological effects of internal and external radiation remains to be further clarified. Interestingly, recent reports demonstrate the increased number of thyroid cancer in children around *Chernobyl* in Belarus. In this review, we would like to introduce the effect of radiation on the thyroid gland at the molecular, cellular and tissue levels. Furthermore the clinical usefulness of iodine-131, including the safety-control for radiation exposure will be discussed. Author-abstract. 50 Refs.

6

AN 94105890. 94042.

TI *`Chernobyl--7* years after:.

SO Sygeplejersken. 1993 May 26. 93(21). P 9.

JT SYGEPLEJERSKEN.

PT JOURNAL-ARTICLE (ART).

7

AN 94105889. 94042.
AU Andersen-M.
TI *`Chernobyl--from* a forgotten hospital:.
SO Sygeplejersken. 1993 May 26. 93(21). P 6-8.
JT SYGEPLEJERSKEN.
PT JOURNAL-ARTICLE (ART).

8

AN 94098291. 94041.
AU Kryshev-I-I. Ryabov-I-N. Sazykina-T-G.
IN Institute of Experimental Meteorology, SPA Typhoon, Russian Academy of Sciences, Obninsk Kaluga region, Lenin.
TI Using a bank of predatory fish samples for bioindication of radioactive contamination of aquatic food chains in the area affected by the *Chernobyl* accident.
SO Sci-Total-Environ. 1993 Nov 1. 139-140. P 279-85.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB From the analysis of experimental data on radioactive contamination of various fish, it is suggested that predatory fish specimens can be used as bioindicators of radionuclide accumulation in reservoir food chains of the *Chernobyl* emergency area. The increased content of cesium radionuclides were detected in the muscle tissue of predatory fish collected in various regions of the *Chernobyl* emergency area. In most of the water bodies studied, maximum contamination levels of predatory fish by radionuclides of cesium occurred in 1987-1988, whereas in 'nonpredatory' fish the concentration of cesium was maximum, as a rule, in the first year following the accident. The exposure doses of fish of various ecological groups and ages are estimated. The exposure doses of various population groups, using fish from contaminated water bodies, are also estimated. When forming the environmental data bank for the *Chernobyl* accident zone it is suggested that perch, pike-perch and pike be used as bioindicators of radioactive contamination of food chains.
Author-abstract.

9

AN 94098284. 94041.
AU Borzilov-V-A.
IN Institute of Experimental Meteorology, SPA Typhoon, Obninsk, Kaluga Region, Russian Federation.
TI Development of requirements for environmental specimen banking in ecological monitoring (exemplified by the *Chernobyl* NPP accident area).
SO Sci-Total-Environ. 1993 Nov 1. 139-140. P 197-201.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Development of requirements for a data bank for natural media as a system of intercorrelated parameters to estimate system states are determined. The problems of functional agreement between

experimental and calculation methods are analysed when organizing the ecological monitoring. The methods of forming the environmental specimen bank to estimate and forecast radioactive contamination and exposure dose are considered to be exemplified by the peculiarities of the spatial distribution of radioactive contamination in fields. Analysed is the temporal dynamics of contamination for atmospheric air, soil and water. Author-abstract.

10

AN 94097101. 94041.
AU Rich-V.
TI New hazard at *Chernobyl* `news:.
SO Lancet. 1994 Jan 8. 343(8889). P 108.
JT LANCET.
PT NEWS (NEW).

11

AN 94082210. 94033.
AU Kollas-J-G.
IN Institute of Nuclear Technology and Radiation Protection, NCSR Demokritos, Aghia Paraskevi, Greece.
TI The health impact of major nuclear accidents: the case of Greece.
SO Risk-Anal. 1993 Oct. 13(5). P 503-8.
JT RISK ANALYSIS.
PT JOURNAL-ARTICLE (ART).
AB An assessment of the radiological consequences that would result for the population of Greece from postulated major nuclear accidents in the Kozloduy nuclear power station in Bulgaria is performed. Kozloduy lies at a distance of 225 km from the northern borders of Greece and contains six reactors, all of the Russian WWER type. The postulated accidents that are classified as level 7 accidents on the International Nuclear Event Scale, involve significant releases of radioactive materials into the environment, and widespread health and environmental effects. The analysis is performed by the MACCS code. The estimated consequences are compared to the corresponding actual impact of the *Chernobyl* accident in Greece. The results of the analysis indicate that, under the conservative assumptions adopted, the radiological consequences of the most severe accidents considered would be about 1.5 orders of magnitude larger than the actual radiological consequences of the *Chernobyl* accident. Author-abstract.

12

AN 94076377. 94032.
AU Dresow-B. Nielsen-P. Fischer-R. Pfau-A-A. Heinrich-H-H.
IN Abteilung Medizinische Biochemie, Universitätskrankenhaus Eppendorf, Hamburg, Germany.
TI In vivo binding of radiocesium by two forms of Prussian blue and by ammonium iron hexacyanoferrate (II).
SO J-Toxicol-Clin-Toxicol. 1993. 31(4). P 563-9.

JT JOURNAL OF TOXICOLOGY. CLINICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The effect of two forms of Prussian blue, soluble $K_3FeFe(CN)_6$ and insoluble $Fe_4Fe(CN)_6 \cdot 3H_2O$, and of ammonium iron hexacyanoferrate (II) ($NH_4FeFe(CN)_6$) on intestinal radiocesium absorption was investigated in rats, pigs, and humans. In rats 5 mg of antidote administered 2 min before ^{134}Cs tracer reduced radiocesium absorption to 2.4-6.3% of the oral dose. In pigs fed with *Chernobyl-contaminated* whey under normal feeding conditions for a 27 day period, radiocesium activity concentration was reduced from 360 Bq/kg in control animals to 10-30 Bq/kg by 5 g antidote/d. In man 1 g of oral Prussian blue diminished the cesium absorption from a ^{134}Cs -labelled test meal to 5.6-6.4% of the controls. The inhibitory effects of colloiddally soluble $K_3FeFe(CN)_6$ and of ($NH_4FeFe(CN)_6$) were similar with slightly less inhibition by the insoluble $Fe_4Fe(CN)_6 \cdot 3H_2O$. Author-abstract.

13

AN 94069805. 94031.

AU Krysiuk-A-P. Mezhenina-IeP. Kutsenok-IaB. Huk-IuM.
Kinchaiia-Polishchuk-T-A. Luchko-R-V. Huriev-SIe. Vovchenko-AIa.

TI `The immediate and late results of radiation effects on the occurrence of congenital defects in the locomotor apparatus based on screening data on newborns in the maternity hospitals of the city of Kiev:.

SO Tsitol-Genet. 1993 Jul-Aug. 27(4). P 90-5.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB On the basis of screening of 15939 newborns at the maternity homes of Kiev after the accident at the *Chernobyl* atomic station it was found that the number of children with congenital malformation of the locomotor apparatus in 1991-1992 increased by 28.7% as compared with the data of the first postaccident years (1986-1987). Congenital pathology of the hip joint (dysplasia in average 23.5 per 1000 births, hip dislocation 3.6:1000) and foot deformity (7.9:1000) had the highest incidence with a tendency to increase at the latest years. Author-abstract.

14

AN 94069804. 94031.

AU Pilinskaia-M-A. Dybskii-S-S. Pedan-L-R.

TI `Dimatif modification of the cytogenetic effect in the peripheral blood lymphocytes of children subjected to a constant low-intensity radiation exposure:.

SO Tsitol-Genet. 1993 Jul-Aug. 27(4). P 87-90.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Primary results of cytogenetic monitoring of children living in regions of Ukraine contaminated after *Chernobyl* accident permit suggesting existence of radiation-induced modification of sensitivity of somatic cell chromosomes to mutagens. It may be supposed that

interindividual and group difference in sensitivity of in vivo irradiated cells to additional induction of in vitro mutagen effect is explained not only by inherited properties, but also by preliminary irradiation. Author-abstract.

15

AN 94069791. 94031.

AU Buzhievskaja-T-I. Chaikovskaia-T-L. Demidova-G-G.
Koblianskaia-G-N.

TI `Limited genetic monitoring in Kiev in relation to the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Tsitol-Genet. 1993 Jul-Aug. 27(4). P 19-29.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Frequency of innate developmental defects, perinatal death rate, spontaneous and induced abortions were statistically studied on the basis of primary medical information from archives of two largest maternity hospitals of Kiev for the period between 1969 and 1989. Significant variations in the chosen characters in different years were found, unidirectional changes in time being absent. No increase in the number of innate defects and frequency of spontaneous abortions after 1986 was found. It is shown necessary to introduce a system of unified registration of innate developmental defects adopted by an international register as well as to use more perfect mathematical methods for correct estimation of the processes occurring in human populations. Author-abstract.

16

AN 94069790. 94031.

AU F-rolov-V-M. Peresadin-N-A. Safonova-E-F. Bariliak-I-R.

TI `The cytogenetic disorders in the people who took part in the cleanup of the sequelae at the *Chernobyl* Atomic Electric Power Station and who lived continuously in areas with an unfavorable ecological situation:.

SO Tsitol-Genet. 1993 Jul-Aug. 27(4). P 14-9.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Cytogenetic disturbances are manifested now in persons who liquidated aftereffects of the *Chernobyl* disaster. The character and course of the disturbances depend on the ecological conditions of the region where liquidators live at present. Examination of a group of liquidators with nerve-psychopathologic disorders and accompanying somatic pathology has revealed the presence of cytogenetic disturbances, mainly of the chromosome aberration type. At the same time, in persons who live under conditions of high environment pollution with ejections of industrial enterprises, the number of chromatid aberrations increases, which may be a result of action of chemical mutagens. A tight correlation is revealed between the level of cytogenetic disorders in lymphocytes and expressivity of the secondary immunodeficiency. Elimination of lymphocytes with unstable

chromosome aberration is delayed when ecological pollution of the biosphere reaches the high level. Author-abstract.

17

AN 94069789. 94031.

AU Stepanova-E-I. Vaniurikhina-E-A.

TI `The clinical and cytogenetic characteristics of the children born to persons with a history of 1st- and 2d-degree acute radiation sickness as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Tsitol-Genet. 1993 Jul-Aug. 27(4). P 10-3.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB We have examined 15 children (born in 1987-1988), whose fathers liquidated the aftereffects of the accident at *Chernobyl* Nuclear Power Plant and suffered from acute radiation sickness of the 1st and 2nd stages and 50 children of the control group. The obtained data showed that the number of small developmental abnormalities (stigmas of dysembryogenesis) increased as well as the chromatid aberration frequency as compared with the control group. Author-abstract.

18

AN 94069307. 94031.

AU Tikhomirov-F-A. Shcheglov-A-I. Sidorov-V-P.

IN Soil Science Faculty, Moscow State University, Russian Federation.

TI Forests and forestry: radiation protection measures with special reference to the *Chernobyl* accident zone.

SO Sci-Total-Environ. 1993 Sep 24. 137. P 289-305.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB A large proportion of the area contaminated by the *Chernobyl* accident in the former USSR is forested and has presented unique problems when considering appropriate post-contamination management and clean-up techniques. These problems are related to the forest's role as both a source and sink for radioactive contamination. Although it has been suggested that resuspension from forested areas may provide a secondary source of contamination to adjacent land, data collected after the Kyshtym and *Chernobyl* accidents suggest that forest ecosystems may also be effective in limiting the further spread of contamination away from the point of initial deposition and that this effect will increase over time. Such evidence serves to highlight the importance of these ecosystems in influencing the behaviour of radionuclides immediately after their release to the environment. Management practices for forested areas adopted since 1986 are described and a critical appraisal is presented of engineering-based countermeasures implemented over the initial post-accident period. These were intended to remove large quantities of contaminated materials from the forest environment. However, it is suggested that the natural processes of self-decontamination of trees and forest floor litter layers are sufficiently rapid and efficient to

necessitate radical alterations to the technology based approaches adopted in the first 2 years after the *Chernobyl* accident.
Author-abstract.

19

AN 94069305. 94031.

AU Howard-B-J.

IN Institute of Terrestrial Ecology, Merlewood Research Station,
Grange-over-Sands, Cumbria, U.K.

TI Management methods of reducing radionuclide contamination of animal food products in semi-natural ecosystems.

SO Sci-Total-Environ. 1993 Sep 24. 137. P 249-60.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Countermeasures involving changes in management practices which are suitable for use in semi-natural ecosystems are described. Most of the relevant information relates to radio-caesium, but the applicability for some other radionuclides has also been evaluated. Improved live-monitoring techniques for radiocaesium, developed since the *Chernobyl* accident, allow the identification of animals whose contamination levels exceed the intervention limits, so that countermeasures can be effectively chosen and targeted. Generally the most effective approach for domesticated and semi-domesticated animals is either to remove contaminated animals from the affected area or to provide uncontaminated feed. Uncontaminated feed is given continuously for dairy animals or in the final fattening stages for meat-producing animals. The introduction of other effective changes in management practices, such as changing hunting seasons for game, or slaughtering at a time of year when the animals have been grazing on less contaminated herbage, depends on a good understanding of the behaviour of radionuclides in these ecosystems. In practice, the most effective countermeasures which can be used to reduce radionuclide contamination of animals in semi-natural ecosystems will be obtained by a combination of both management changes and the use of chemical binders to prevent gut absorption. Author-abstract. 31 Refs.

20

AN 94069304. 94031.

AU Hove-K.

IN Department of Animal Science, Agricultural University of Norway, As.

TI Chemical methods for reduction of the transfer of radionuclides to farm animals in semi-natural environments.

SO Sci-Total-Environ. 1993 Sep 24. 137. P 235-48.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The same chemicals can be used for reduction of radionuclide transfer to animals whether kept on farms or grazing in semi-natural and natural habitats. However, different techniques are required for administration of the active compounds. Dairy ruminants may be treated effectively by inclusion of chemicals in supplemental

concentrates. Practical experience gained after the *Chernobyl* accident has shown that both clay minerals and hexacyanoferrates are effective in preventing high radiocaesium levels in animal products. Chemicals such as bentonite clays and CaCO_3 , used for reduction of ^{137}Cs and ^{90}Sr transfer respectively, must be fed in hectogram quantities and are only practical for dairy animals in semi-natural ecosystems. Salt licks and sustained release boli with hexacyanoferrates as caesium binders have been developed and used successfully after the *Chernobyl* accident for meat producing cattle, sheep and reindeer which graze freely for extended periods. Daily doses of 25-300 mg in sheep and 250-2000 mg in cows reduces ^{137}Cs accumulation 2-10-fold. Binders for ^{90}Sr have not been tested in grazing animals. Stable iodine could be provided in salt licks and indwelling rumen boli at rates required to block radioiodine uptake by the thyroid gland. Boli and salt licks are highly cost effective in reducing doses to man when compared to interdiction of food from farm animals. Author-abstract.

21

AN 94069301. 94031.
AU Firsakova-S-K.
IN Byelorussian Institute of Agricultural Radiology, Belarus.
TI Effectiveness of countermeasures applied in Belarus to produce milk and meat with acceptable levels of radiocaesium after the *Chernobyl* accident.
SO Sci-Total-Environ. 1993 Sep 24. 137. P 199-203.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Countermeasures taken in Belarus to reduce transfer of radiocaesium from feeds to animals have combined live monitoring and monitoring of radiocaesium (^{137}Cs and ^{134}Cs) in bulk milk on dairy farms with the setting of upper limits for radionuclide contents for animal feeds. Only uncontaminated feeds have been used in the final fattening of animals before slaughter. Combined with widespread soil management programmes these measures have allowed the continued use of the majority of contaminated agricultural lands without substantial changes in farming practices. Author-abstract.

22

AN 94064300. 94031.
AU Handl-J. Oliver-E. Jakob-D. Johanson-K-J. Schuller-P.
IN Niedersachsisches Institut fur Radioökologie, an der Universität Hannover, Federal Republic of Germany.
TI Biospheric ^{129}I concentrations in the pre-nuclear and nuclear age.
SO Health-Phys. 1993 Sep. 65(3). P 265-71.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB In order to detect characteristic regional differences or temporal changes of ^{129}I concentrations in the biosphere, thyroids from humans, grazing livestock, and herbivorous wildlife species (reindeer

and roedeer) were collected in various areas of the world which are not affected by reprocessing plants. For reasons of comparison, all samples were analyzed for their $^{129}\text{I}:\text{}^{127}\text{I}$ atom ratios. Human and bovine thyroids taken from the 10th region in Southern Chile (39 degrees-41 degrees South) indicated values of the $^{129}\text{I}:\text{}^{127}\text{I}$ atom ratio between 1.1×10^{-9} and 2.0×10^{-9} and between 1.2×10^{-10} and 9×10^{-9} , respectively. They showed no significant increase in the concentration of biospheric ^{129}I in comparison with that established in the pre-nuclear age. Atom ratios found in human thyroids collected in Lower Saxony (Federal Republic of Germany), which is a region not directly affected by reprocessing plants, exhibited $^{129}\text{I}:\text{}^{127}\text{I}$ values between 8×10^{-9} and 6×10^{-8} from February 1988 to September 1990. Thyroid glands of reindeer and roedeer as well as heather, moss, and lichen were taken from the Vilhelmina, Heby, and Gavle communes in Sweden and analyzed for ^{129}I and ^{127}I . All three communes were found to be seriously contaminated by fallout from the *Chernobyl* accident. Highest $^{129}\text{I}:\text{}^{127}\text{I}$ atom ratios between 3.5×10^{-7} and 1×10^{-6} were found in the Gavle commune (approximately 150 km northwest of Stockholm) where the highest ^{137}Cs ground deposition ($70\text{--}80 \text{ kBq m}^{-2}$) was measured. Two soil samples taken from Krasnaya Gora and Mirny locations in Russia (approximately 200 km northeast of *Chernobyl*) exhibited ratios of about 1×10^{-6} . These locations showed a ^{137}Cs ground deposition of 370 and 1,300 kBq m^{-2} , respectively. Author-abstract.

23

AN 94063131. 94031.

AU Serebrovska-T-V. Gusieva-S-A. Beloshytskyi-P-V. Krasiuk-A-N. Klymenko-L-M.

TI `Respiratory reactivity and parameters of nonspecific immunity in workers of the *Chernobyl* nuclear power plant during adaptation to mountain climate:.

SO Fiziol-Zh. 1993 Jul-Aug. 39(4). P 39-47.

JT FIZIOLOGICHNYI ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB The quantitative composition of the peripheral blood, enzymatic activity of neutrophils and hypoxic ventilatory drive were determined in people working at the *Chernobyl* NPP during sojourn for 28 days in the Caucasus mountains at 220 m altitude with a periodical climbing up to 4200 m. At the initial state we found neutropenia, lymphocytosis, an increase in the number of prolymphocytes and big hairy lymphocytes, a decrease in the number of small lymphocytes, fall in activity of enzymes responsible for oxygen-dependent and oxygen-independent mechanisms of bactericidity. The indices of sensitivity to the hypoxic respiration stimulus did not essentially differ from the norm. Staying at altitude promoted normalization of the number of segmento-nuclear neutrophils, lymphocytes (their small population, in particular), an increase in the number of eosinophiles of the peripheral blood. Changes in the activity of myeloperoxidase, NADP-oxidase and cationic proteins in the neutrophils were observed.

A considerable increase of the ventilatory drive to the hypoxic respiration stimulus was determined. Accentuation of fermentative transformations proved to be closely related to the ventilatory response to hypoxia: weak activation of NADP-oxidase and a decrease of myeloperoxidase activity were observed in people with initially low respiration reactivity, while a considerable increase in activity of these enzymes and in content of cationic proteins was observed in people with high respiration reactivity. Individual peculiarities of the reaction to staying at altitude should be taken into account when developing particular methods of immune correction.
Author-abstract.

24

AN 94062813. 94031.
AU DeGroot-L-J.
IN Department of Medicine, University of Chicago, Illinois.
TI Effects of irradiation on the thyroid gland.
SO Endocrinol-Metab-Clin-North-Am. 1993 Sep. 22(3). P 607-15.
JT ENDOCRINOLOGY AND METABOLISM CLINICS OF NORTH AMERICA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB External irradiation to the thyroid, even at low doses, induces subsequent development of thyroid nodules and carcinomas, with an estimated incidence of five per one million people per year if they have been exposed to 1 rad. Larger doses are associated with hypothyroidism. External irradiation also induces thyroid hyperplasia and is associated with an increased incidence of thyroid autoimmunity and the development of thyroiditis and Graves' disease. ¹³¹I, used in the treatment of Graves' disease and thyroid cancer for nearly 50 years, has not been associated with an increased incidence of thyroid cancer. Nevertheless, caution is advisable in use of radioiodide therapy in adolescents. Low levels of fallout from nuclear explosions probably have minimal, if any, effect on the thyroid; but recent high-level exposure in individuals near *Chernobyl* is reported to be associated with the development of thyroid malignancies in children. Author-abstract. 41 Refs.

25

AN 94062742. 94031.
AU Cordero-J-F.
IN Division of Birth Defects and Developmental Disabilities, Centers for Disease Control, Atlanta, GA 30333.
TI The epidemiology of disasters and adverse reproductive outcomes: lessons learned.
SO Environ-Health-Perspect. 1993 Jul. 101 Suppl 2. P 131-6.
JT ENVIRONMENTAL HEALTH PERSPECTIVES.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB A disaster has been defined as a disruption of human ecology that exceeds the capacity of the community to function normally. Little is known about the adverse effects of natural disasters on reproductive outcomes. Important lessons can be derived from several

disasters caused by human factors, such as the Minamata Bay disaster. Adverse reproductive outcomes include infertility, early pregnancy loss, stillbirths, congenital malformations, and serious developmental disabilities such as cerebral palsy and mental retardation. Recent disasters like the *Chernobyl* and Bhopal explosions have provided important lessons on the need for accurate and sound information about the risk of prenatal exposures for adverse reproductive outcomes. To study questions of adverse reproductive outcomes and disasters requires a well-planned approach. It should include early development of surveillance for adverse reproductive outcomes, analytic studies on the risk of disasters from direct and indirect effects, sensitive methods to measure early pregnancy loss, and long-term follow-up programs to assess outcomes such as developmental disabilities. Author-abstract. 43 Refs.

26

AN 94062739. 94031.

AU Kulakov-V-I. Sokur-T-N. Volobuev-A-I. Tzibulskaya-I-S. Malisheva-V-A. Zikin-B-I. Ezova-L-C. Belyaeva-L-A. Bonartzev-P-D. Speranskaya-N-V. et al.

IN All-Union Scientific-Research Centre for Maternal and Child Health Care, Moscow, Russia.

TI Female reproductive function in areas affected by radiation after the *Chernobyl* power station accident.

SO Environ-Health-Perspect. 1993 Jul. 101 Suppl 2. P 117-23.

JT ENVIRONMENTAL HEALTH PERSPECTIVES.

PT JOURNAL-ARTICLE (ART).

AB This paper reports the results of a comprehensive survey of the effects of the accidental release of radiation caused by the accident at the *Chernobyl* nuclear power station in April 1986. The accident and the resulting release of radiation and radioactive products into the atmosphere produced the most serious environmental contamination so far recorded. We have concentrated on evaluating the outcomes and health risks to women, their reproductive situation, and consequences for their progeny. We have concentrated on two well-defined areas: the Chechersky district of the Gomel region in Belorussia and the Polesky district of the Kiev region in the Ukraine. A number of investigations were carried out on 688 pregnant women and their babies, and data were obtained from 7000 labor histories of the development of newborns for a period of 8 years (3 years before the accident and 5 years after it). Parameters examined included birth rate, thyroid pathology, extragenital pathology such as anemias, renal disorders, hypertension, and abnormalities in the metabolism of fats, complications of gestation, spontaneous abortions, premature deliveries, perinatal morbidity and mortality, stillbirths and early neonatal mortality, infections and inflammatory diseases, neurological symptoms and hemic disturbances in both mothers and infants, trophic anomalies, and biochemical and structural changes in the placenta. Several exogenous, complicating influences were also considered such as psycho-emotional factors, stress, lifestyle

changes, and others caused directly by the hazardous situation and by its consequences such as treatment, removal from affected areas, etc.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

27

AN 94060517. 94031.
AU Brunn-H. Georgii-S. Eskens-U.
IN Staatliches Medizinal-, Lebensmittel-, und Veterinaruntersuchungsamt Mittelhessen, Germany.
TI ¹³⁷cesium and ¹³⁴cesium in roe deer from north and middle Hesse (Germany) subsequent to the reactor accident in *Chernobyl.*
SO Bull-Environ-Contam-Toxicol. 1993 Nov. 51(5). P 633-9.
JT BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY.
PT JOURNAL-ARTICLE (ART).

28

AN 94054213. 94021.
TI Houston scientists to track *Chernobyl* victims.
SO Tex-Med. 1993 Sep. 89(9). P 24-5.
JT TEXAS MEDICINE.
PT JOURNAL-ARTICLE (ART).

29

AN 94052549. 94021.
AU Jacob-P. Muller-H. Prohl-G. Voigt-G. Berg-D. Paretzke-H-G. Regulla-D.
IN GSF-Forschungszentrum fur Umwelt und Gesundheit, Institut fur Strahlenschutz, Oberschleissheim, Germany.
TI Environmental behaviour of radionuclides deposited after the reactor accident of *Chernobyl* and related exposures.
SO Radiat-Environ-Biophys. 1993. 32(3). P 193-207.
JT RADIATION AND ENVIRONMENTAL BIOPHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Several radioecological experiences with isotopes of ruthenium, iodine, caesium and barium, obtained after the reactor accident of *Chernobyl,* are reported. It was found that for a wet deposition barium was the element with the highest retention on grass. The retention of caesium was lower by a factor of 1.6, retention of iodine by a factor of 2.4 and retention of ruthenium by a factor of 3.5. Former data on the caesium transport in cereals from leaves to grain were confirmed. Depending on the conditions the iodine transfer factor for milk varied between 0.002 and 0.007 d.kg⁻¹. The caesium transfer factor for milk was (0.003 +/- 0.0006) d.kg⁻¹ and was found to be relatively constant in the years 1986-1988. In 1991, the values were higher by a factor of 2-5. Radioecological model results of whole-body burdens in Southern Bavaria showed a reduction of the caesium ingestion doses due to countermeasures and spontaneous changes of consumption habits in the first 2 months by a factor of 5 and till the end of 1987 by a factor of 1.5. The model results agree well with the range of measured whole-body burdens. One month after

the deposition, the external exposures in urban environments due to ruthenium, caesium and barium isotopes were found to be reduced by a factor of 2, compared with open lawns, in the case of iodine the reduction was even a factor of 2.5. External exposures of a population group from the Munich area were determined by thermoluminescence dosimetry. The results are in accordance with the spectral measurements of external dose rates in urban environments. Author-abstract.

30

AN 94051030. 94021.
AU Ostapenko-E-K. Vilenskii-E-R. Naumenko-V-D. Bubriak-I-I. Grodzinskii-D-M.
TI `Genetic disorders in the pollen cells of waxy barley in radioactive contamination after the *Chernobyl* accident:.
SO Ontogenez. 1993 Sep-Oct. 24(5). P 11-9.
JT ONTOGENEZ.
PT JOURNAL-ARTICLE (ART).
AB Genotoxic effects during microsporogenesis and gametogenesis were studied in barley of the waxy strain grown on 3 experimental plots situated in the region of the *Chernobyl* disaster (plot 1 in the town of *Chernobyl,* plots 2 and 3 in the town of Yanov, 3 km away from the damaged power plant). It was determined that an increased level of radionuclide pollution and chronic irradiation during ontogenesis results in higher incidence of meiotic disturbances and abnormalities during formation of the male gametophyte. Incidence of waxy reversions in pollen grains depends on the activity of radionuclide pollutants as well. We suggest that selection affecting both diplont and haplont forms will provide for the absence of significant aberrations in subsequent plant generations. Author-abstract.

31

AN 94050369. 94021.
AU Bidzinski-J.
TI `Discussion of a possibility of oncologic sequences of the *Chernobyl* disaster:.
SO Neurol-Neurochir-Pol. 1993 May-Jun. 27(3). P 445-7.
JT NEUROLOGIA I NEUROCHIRURGIA POLSKA.
PT JOURNAL-ARTICLE (ART).

32

AN 94049943. 94021.
AU Stephan-G. Oestreicher-U.
IN Institute for Radiation Hygiene of the Federal Office for Radiation Protection, Neuherberg, Germany.
TI Chromosome investigation of individuals living in areas of southern Germany contaminated by fallout from the *Chernobyl* reactor accident.
SO Mutat-Res. 1993 Nov. 319(3). P 189-96.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).

AB One specific area in the Federal Republic of Germany experienced a particularly high contamination by fallout from the *Chernobyl* reactor accident in 1986. The individuals living there received an additional radiation exposure from the fallout of about 0.8 mSv in 1986, which had decreased to about 0.2 mSv in 1989. Blood samples for chromosome analyses were collected from 29 different individuals during the period 1987-1991. About 44,000 cells were scored. The individuals were subdivided according to sampling time. In 1987/88, the mean frequency of dicentrics and centric rings (dic + Rc) was 2.45 +/- 0.42 per 1000 cells and that for excess acentrics (ace) was 8.20 +/- 0.90 per 1000 cells. In the following 2 years the mean yields per 1000 cells for dic + Rc were 1.60 +/- 0.40 and 1.79 +/- 0.42, respectively, and that for ace 8.18 +/- 0.90 and 6.92 +/- 0.83, respectively. The mean yields for chromatid breaks (cbr) per 1000 cells in the same periods were 4.96 +/- 0.60, 6.79 +/- 0.82, and 5.14 +/- 0.71, respectively. In addition, individuals were investigated as controls in two different areas where the exposure doses from the *Chernobyl* fallout were lower by one order of magnitude. In one control area, the mean frequency of structural chromosome aberrations was found to be 2.58 +/- 0.36 dic + Rc, 9.62 +/- 0.69 ace, and 6.54 +/- 0.57 cbr per 1000 cells (20 individuals, approximately 20,000 cells). In the other control area, the mean yields were 1.91 +/- 0.42, 8.63 +/- 0.89, and 5.90 +/- 0.73, respectively, per 1000 cells (11 individuals, approximately 11,000 cells). These yields show no significant trend, either with sampling time or with contamination level for any of the three aberration types. Five individuals from the highly contaminated area who were investigated in 1987, were reinvestigated in 1991. On the basis of about 10,000 cells, the mean yield of dic + Rc per 1000 cells decreased significantly from 2.69 +/- 0.52 to 1.40 +/- 0.37 ($p < 0.05$). In nine individuals from the contaminated area, the content of cesium nuclides was measured using a whole body counter. No relation between the physically calculated radiation doses to blood and the frequency of dicentrics determined in 1987/88 was found ($r = 0.41$). Author-abstract.

33

AN 94049511. 94021.
AU Kasten-M-C.
TI Let's not have a medical *Chernobyl*.
SO Mo-Med. 1993 Oct. 90(10). P 637-8.
JT MISSOURI MEDICINE.
PT JOURNAL-ARTICLE (ART).

34

AN 94042079. 94021.
AU Pietrzak-Flis-Z. Orzechowska-G.
IN Department of Radiation Hygiene, Central Laboratory for Radiological Protection, Warsaw, Poland.
TI Plutonium in daily diet in Poland after the *Chernobyl* accident.
SO Health-Phys. 1993 Nov. 65(5). P 489-92.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The content of $^{239,240}\text{Pu}$ was determined in the daily diet collected in northeastern Poland (Bialystok) from March 1987 to May 1992. The estimated annual intake of plutonium decreased from 774 mBq y⁻¹ in the first year after the *Chernobyl* accident down to approximately 90 mBq y⁻¹ in the sixth year. Large fluctuations of daily intake in the first 2 y suggested that a large fraction of plutonium in the daily diet originated from the external contamination. Assuming the fractional absorption factor of 10⁽⁻⁵⁾ for externally contaminated foodstuffs and 10⁽⁻³⁾ for root uptake, the assimilated $^{239,240}\text{Pu}$ would be in the range from approximately 0.02 mBq up to approximately 2 mBq for the period studied. Author-abstract.

35

AN 94040902. 94021.

AU Loshilov-N-A. Kashparov-V-A. Iudin-E-B. Protsak-V-P.
Ioshchenko-V-I.

TI `Radionuclide inhalation during agricultural work in the regions polluted by the *Chernobyl* accident:.

SO Gig-Sanit. 1993 Jul. (7). P 57-60.

JT GIGIENA I SANITARIIA.

PT JOURNAL-ARTICLE (ART).

AB With pollution of agricultural fields by plutonium at a level of more than 3.7 kBq/m² and cesium more than 7.4 MBq/m² radionuclide levels in tractor cabin can exceed the permissible level. However field work being seasonal, annual level of inhaled radionuclides does not exceed the permissible limit. Actually the equivalent dose for the lungs does not exceed just few mSv under conditions of agricultural production. Author-abstract.

36

AN 94040281. 94021.

AU Korkina-L-G. Afanasef-I-B. Diplock-A-T.

IN Russian Institute for Haematology, Moscow.

TI Antioxidant therapy in children affected by irradiation from the *Chernobyl* nuclear accident.

SO Biochem-Soc-Trans. 1993 Aug. 21 (Pt 3). P 314S.

JT BIOCHEMICAL SOCIETY TRANSACTIONS.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART).

37

AN 94040127. 94021.

AU Korkina-L-G. Afanasef-I-B. Diplock-A-T.

IN Russian Institute for Haematology, Moscow.

TI Antioxidant therapy in children affected by irradiation from the *Chernobyl* nuclear accident.

SO Biochem-Soc-Trans. 1993 Aug. 21(3). P 314S.

JT BIOCHEMICAL SOCIETY TRANSACTIONS.

PT JOURNAL-ARTICLE (ART).

AN 94035777. 94021.

AU Vasilevskaia-A-I. Zhdanova-N-N. Gavriliuk-V-I.

TI `The dynamics of the fungal mycelial content in the soils of stationary posts in a 30-kilometer zone around the *Chernobyl* Atomic Electric Power Station:.

SO Mikrobiol-Z. 1993 Jun-Aug. 55(4). P 8-15.

JT MIKROBIOLOHICHNYI ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB The paper deals with mycobiota of radionuclide-polluted soils of seven stationary posts in the 30-kilometer zone of the *Chernobyl* NPP and one in the vicinities of Kiev (Feofaniia). The lengths of light-and dark-coloured fungal mycelium were determined in the soil under study by the method of membrane filters for 1987-1989. Data obtained have been analyzed with the account of the radioactivity level of the soil samples, season and depth of the sampling horizon. The dynamics of mycelium content in soils has been traced which evidences for its seasonal changes and prevalence of dark-pigmented mycelium at the beginning which then was changed by predominance of light-coloured mycelium. It is supposed that radioactive contamination of soil is one of considerable components of the whole complex of ecological factors which determine the dynamics of fungal mycelium content in soil. Author-abstract.

AN 94023922. 94011.

AU Assimakopoulos-P-A. Ioannides-K-G. Karamanis-D-T. Pakou-A-A. Stamoulis-K-C. Mantzios-A-S. Nikolaou-E.

IN Nuclear Physics Laboratory, University of Ioannina, Greece.

TI Radiocaesium transfer to sheep's milk as a result of soil ingestion.

SO Sci-Total-Environ. 1993 Aug 15. 136(1-2). P 13-24.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Soil ingestion as a source of radiocaesium contamination to ruminants was studied by measuring the transfer coefficient to sheep milk. Eight lactating ewes, housed in individual metabolism cages, were used. Fifty grams per day of heavily contaminated sandy topsoil, collected in 1990 from the *Chernobyl* area, were administered orally to the animals for a period of 1 week. The daily dose intake in ^{137}Cs was 1835 Bq day⁻¹. During this contamination period, daily milk production and excreta output were measured. The ewes were monitored for an additional 7 day decontamination period, while they fed on uncontaminated feed. Transfer coefficients were obtained through a best fit (minimum chi ²) of the data to predictions of a linear compartment model. The values obtained were $f_m = (2.6 \pm 0.7) \times 10^{-2}$ and $f_{mu} = (5 \pm 2) \times 10^{-2}$ days kg⁻¹ for radiocaesium transport to milk and urine, respectively. These results suggest that soil ingestion can be a major source of radiocontamination for sheep and other free-grazing ruminants.

Comparison of our results with soil-to-milk transfer coefficient values derived in two recent independent experiments suggests that there might be a strong dependence of radiocaesium availability on soil composition. Author-abstract.

40

AN 94023920. 94011.

AU Assimakopoulos-P-A. Ioannides-K-G. Pakou-A-A. Mantzios-A-S. Pappas-C-P.

IN Nuclear Physics Laboratory, University of Ioannina, Greece.

TI Transport of radiocaesium from a sheep's diet to its tissues.

SO Sci-Total-Environ. 1993 Aug 15. 136(1-2). P 1-11.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Transfer coefficients for radiocaesium transport from a sheep's diet to blood, muscle, lung, liver, kidney, spleen heart, brain, rumen, intestines and fat were measured in a controlled experiment involving 50 adult ewes. The animals were fed dry grass and wheat, both contaminated with *Chernobyl* fallout debris, for a period of 60 days. During this period half of the animals were killed at regular intervals and samples of their blood and tissues were measured for radiocaesium concentration. The rest of the animals were returned to uncontaminated food and were monitored for radiocaesium concentration through periodic slaughtering for an additional 60 days. Transfer coefficients were extracted from the plateau reached at the end of the contamination phase. The data were also analyzed by means of a recently proposed linear multiple compartment model and transport rate parameters for each compartment were extracted. Transfer coefficients computed through the model's transport rate parameters show remarkable agreement with the experimentally obtained values. Author-abstract.

41

AN 94020772. 94011.

AU Szabo-M. Toth-T. Munnich-A. Veress-L.

IN Debreceni Orvostudományi Egyetem Szülészeti és Nőgyógyászati Klinika.

TI `Retrospective survey of nursery-age children 5 years after *Chernobyl*.*

SO Orv-Hetil. 1993 Sep 26. 134(39). P 2149-53.

JT ORVOSI HETILAP.

PT JOURNAL-ARTICLE (ART).

AB In their paper, the authors are dealing with the effect of the *Chernobyl's* nuclear catastrophe (1986) for the outcome of pregnancy and some parameters of the status of health. Their empirical study is based on a sample (sample size is 1168) of pregnant of the critical year 1986, and also based on a control sample (sample size is 1068) of the year 1985. They compared the five old year children's parameters of status of health between the critical and control groups. Their retrospective epidemiologic survey is extended to study some prenatal, perinatal and childhood parameters also.

Finally, they summarise the biometric evaluation of their questionnaire survey. No significant difference of health conditions of the two groups defined above was found. Author-abstract.

42

AN 94019838. 94011.
AU Ivanov-E-P. Tolochko-G. Lazarev-V-S. Shuvaeva-L.
TI Child leukaemia after *Chernobyl* `letter:.
SO Nature. 1993 Oct 21. 365(6448). P 702.
JT NATURE.
PT LETTER (LET).

43

AN 94010392. 94011.
AU Prokofev-O-N. Shergina-I-G.
TI `Evaluation of average effective doses of internal irradiation outside the regions polluted by the *Chernobyl* nuclear plant accident:.
SO Gig-Sanit. 1993 Jun. (6). P 39-42.
JT GIGIENA I SANITARIIA.
PT JOURNAL-ARTICLE (ART).
AB Results of strontium-90 and cesium-137 control in food products in Russia after the Cernobyl power plant accident in 1986-1988 are summed up. Annual intake of radionuclides with individual food products and with ration on the whole was calculated. Maximal year intake of Sr-90 and Cs-137 with ration were accordingly 1% and 0.7% of the threshold annual intake for category B. Assessment of the mean effective equivalent doze (EED) of internal irradiation for Russia in 1986-1988 years was made; maximal addition to annual EED of internal irradiation realized in 1986 made up 2% from the mean annual EED of natural background. Author-abstract.

44

AN 94010389. 94011.
AU Krasnopevtsev-V-M. Istomin-A-V. Grishina-T-I. Chizhov-S-S.
TI `Hygienic evaluation of the nutritional value of children's food in a pre-school facility and principles of its correction in the area affected by *Chernobyl* nuclear plant accident:.
SO Gig-Sanit. 1993 Jun. (6). P 34-6.
JT GIGIENA I SANITARIIA.
PT JOURNAL-ARTICLE (ART).

45

AN 94005357. 94011.
AU Voitkun-V-A. Miliutin-A-A. Lobanok-L-M.
TI `Regulation of glucose transport in rat thymocytes after chronic gamma-irradiation:.
SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 521-4.
JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.
PT JOURNAL-ARTICLE (ART).

AB Chronic gamma-irradiation (1 Gy, 100 mR/hr) increases cell titre in rat thymus and decreases glucose transport activation by phorbol ester. Animals kept in the *Chernobyl* evacuation zone over a period of 30 days exhibit reduced thymus cellularity and decreased PMA (200 nM) stimulation of glucose uptake by thymus cells. Author-abstract.

46

AN 94005356. 94011.

AU Pelevina-I-I. Afanasev-G-G. Gotlib-VIa. Alferovich-A-A.
Antoshchina-M-M. Riabchenko-N-I. Saenko-A-S. Riabtsev-I-A.
Riabov-I-N.

TI `Radiation exposure of cultured tissue cells and animals (mice) within 10-kilometers zone of accident at *Chernobyl* nuclear plant. Effect on radiosensitivity to future radiation:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 508-20.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The effect of chronic low-level radiation exposure on radiosensitivity to posterior acute irradiation at high doses has been studied. Cells and mice were exposed within the ten-kilometer zone of *Chernobyl* disaster during various spaces of time (1-12 days), then over one or more days were additionally irradiated by doses of 1-4 Gy. It was shown that no adaptive response was developed under chronic exposure of cells and mice within the zone of disaster. On the contrary increased sensitivity to posterior irradiation was revealed. The number of cytogenetic damages of cultured tissue cells and marrow cells (chromosome aberrations and micronuclei) increases, the spectrum of aberrations being shifted to chromosome type, cells with multiaberration appearing. The decay of chromatine increases indicating an interphase death; the number of leucocytes in peripheral blood decreases. Author-abstract.

47

AN 94005355. 94011.

AU Konradov-A-A. Liubimova-N-V. Pelevina-I-I.

TI `Changes of radiosensitivity in animals after exposure to radiation within the territory of accident at the *Chernobyl* nuclear plant:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 499-507.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Mice exposed inside of 10-km zone around *Chernobyl* Atomic Station with follow-up acute irradiation were studied to find the changes in their life-span. It was found that the results essentially depend on the interval between exposition in zone and acute irradiation and space of time after irradiation. Author-abstract.

48

AN 94005354. 94011.

AU Kravets-A-P. Grodzinskii-D-M. Pavlenko-IuA. Zhdanova-N-N.
Vasilevskaia-A-I. Siniavskaia-O-I.

TI `Statistical criterium of pollution heterogeneity in the research of biotic factors of radionuclides migration:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 489-98.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The nature of the radionuclide contamination resulting from *Chernobyl* disaster is in its spatial and aggregate heterogeneity determined by the interaction of systematic and incidental factors. To study the radionuclide migration in the soil-plant system, an independent statistical index of contamination heterogeneity $H = RAsAp$ is proposed which is calculated as a Brave-Pirsens coefficient of linear correlation between radioactivity of soil and dry biomass of plants grown on it and which allows to determine relative range of contamination that appears in the form of "hot particles". An adequacy of this index is substantiated, and it is used to analyze the experimental results on radionuclide migration.

Author-abstract.

49

AN 94005353. 94011.

AU Lobanok-L-M. Kirienkov-A-E. Gerasimovich-N-V.

TI `Modification of adrenergic regulation of heart function under effect of radio-ecological factors within 10-kilometer zone of the accident at *Chernobyl* nuclear plant:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 484-8.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Rats kept within the ten-kilometer zone of *Chernobyl* disaster over a period of 30 days exhibited a decreased heart function response to beta-adrenoreceptor stimulus, reduced density of the receptor structures in cardiomyocytes and their affinity to specific agonists. The number of beta-adrenoreceptors in myocardium cells was restored in 6 months, but their affinity and heart function response to the effect of beta-adrenoagonists remained decreased. No significant changes were observed in regulation influenced indirectly via alpha-adrenoreceptors. Author-abstract.

50

AN 94005352. 94011.

AU Poverennyi-A-M. Shinkarkina-A-P. Podgorodnichenko-V-K. Parshin-V-S. Tsyb-A-F.

TI `Immunologic methods in epidemiologic monitoring of population, affected by radioactive iodine as a result of the accident at the *Chernobyl* nuclear plant:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 479-83.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Ultrasound investigations of the thyroid gland and determinations of microsomal antibodies have been performed in persons who lived in the town of Korosten (Zhitomir Region) during the *Chernobyl* accident. A

high correlation has been found between ultrasound and immunological results. The immunological screening of the population suffered from the *Chernobyl* disaster might be successfully used for the autoimmune thyroiditis detection. These data complete those obtained by the ultrasound tests. Author-abstract.

51

AN 94005351. 94011.

AU Malyzhev-V-A. Pelevina-I-I. Afanasev-G-G. Gordienko-S-M.
Gubrii-I-B. Klimenko-T-I. Lukashova-R-G. Petrova-I-V.
Sergeeva-T-A.

TI `Immune system status under effect of low levels of ionizing radiation: studies within the 10 kilometer zone of accident at *Chernobyl* nuclear plant:.

SO Radiats-Biol-Radioecol. 1993 Jul-Aug. 33(4). P 470-8.

JT RADIATSIONNAIA BIOLOGIIA, RADIOECOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the influence of high radiation contamination within the ten-kilometer zone of *Chernobyl* disaster on the structure and function of the immune system of (DBA x C57B1)F1 and DBA mice. The cumulative radiation doses with respect to gamma-radiation, were 0.024, 0.168 and 0.336 Gy. T-lymphocyte proliferation was shown to be activated with all radiation doses mentioned above but with doses of 0.024 and 0.168 Gy, helper T lymphocytes, and with 0.336 Gy, suppressor N-lymphocytes were primarily activated. So, in the former case, some effector functions of the immunity were activated, and in the latter, inhibited. It is concluded that certain hyperstimulation of the lymphoid cell formation (including the increase in T-suppressors), that is induced by long-term exposure to low-level radiation, triggers the mechanisms of autonomous regulation of the system that suppress the radiation-induced lymphocyte proliferation and inhibit the effector functions of the immunity. Author-abstract.

52

AN 93392406. 93000.

AU Romodanov-A-P. Vynnytskyi-O-R.

TI `Brain lesions in mild radiation sickness:.

SO Vrach-Delo. 1993 Jan. (1). P 10-6.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB It is indicated that all subjects who had acute grade I radiation sickness of the *Chernobyl* accident showed disorders of the brain functions 5-6 years later. They evidence involvement of all brain structures but especially the subcortical brainstem portions. Marked memory reduction was also noted. The neurological deficit was not pronounced but the patients developed a syndrome of significant disadaptation, which had a progressive character. The authors propose to term these changes as postradiation encephalopathy of primary-radiation and intoxication genesis. Author-abstract.

53

AN 93392385. 93000.

AU Jandl-J. Sladovnik-K.

IN Vyzkumny ustav veterinarniho lekarstvi, Brno.

TI `Transfer of radiocesium into rabbit meat and its excretion:.

SO Vet-Med (Praha). 1993. 38(7). P 427-32.

JT VETERINARNI MEDICINA.

PT JOURNAL-ARTICLE (ART).

AB The uptake of radiocesium Cs-137 in rabbit's muscle and its clearance were studied following the 24 days long ingestion of hay naturally contaminated as a consequence of the *Chernobyl* accident. The average radioactivity of hay was 2,294 +/- 345 Bq/kg and the daily intake was 0.5 kg. It was found that after 20 days of ingestion the muscle radionuclide concentration equilibrated with that of the feed. The transfer coefficient Tf describing the fraction of the daily intake of Cs-137 found in a kilogram of rabbit's muscle was calculated: $Tf = 0.29 \pm 0.15$ d/kg. The biological Cs-137 clearance rate (after finishing the feeding with contaminated diet) was found to be ruled by two biological half-lives: $Tb1 = 1.5$ days and $Tb2 = 66$ days and fitting the following retention equation: $A_t = 0.66.e^{-0.46.t} + 0.34.e^{-0.01.t}$ It means that 5 days after removing the animals from contaminated diet the amount of Cs-137 can be expected as 30% of the initial one. Author-abstract.

54

AN 93385595. 93000.

AU Evdokimov-V-V. Atochina-E-N. Sakharov-IIu.

TI `Changes in the level of the angiotensin-converting enzyme activity in the spermatozoa of patients with chronic prostatitis and of participants in the cleanup of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Biull-Eksp-Biol-Med. 1993 Jun. 115(6). P 620-1.

JT BIULLETEN EKSPERIMENTALNOI BIOLOGII I MEDITSINY.

PT JOURNAL-ARTICLE (ART).

AB The method of determination of angiotensin-converting enzyme activity in human spermatozoa and sperm plasma was developed. The amount of total and active-mobile spermatozoa was shown to be less in *Chernobyl* victims than in healthy donors. Moreover, the specific activity of angiotensin-converting enzyme in *Chernobyl* victims spermatozoa calculated per 10^6 cells was 12-fold greater than in spermatozoa of the donors. Similar phenomenon, although to a less extent, was observed in patients with chronic prostatitis. The enzyme activity in blood serum and sperm plasma was also demonstrated to be similar for all groups investigated and equal to that in healthy donors. Author-abstract.

55

AN 93384988. 93000.

AU Smucker-P.

TI `Suicide following the *Chernobyl* disaster (news):.
SO J-Sykepleien. 1993 Mar 16. 81(5). P 20.
JT JOURNALEN SYKEPLEIEN.
PT NEWS (NEW).

56

AN 93382462. 93000.
AU Padovani-L. Caporossi-D. Tedeschi-B. Vernole-P. Nicoletti-B.
Mauro-F.
IN Department of Biological and Health Effects, ENEA Casaccia, Rome,
Italy.
TI Cytogenetic study in lymphocytes from children exposed to ionizing
radiation after the *Chernobyl* accident.
SO Mutat-Res. 1993 Sep. 319(1). P 55-60.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB The present study concerns the monitoring of children from the
Byelorussian, Ukrainian and Russian republics exposed to the fall-out
of the *Chernobyl* accident. Cytogenetic analyses have been performed
on 41 children coming from different areas and exhibiting varying
amounts of 137Cs internal contamination, as evaluated by whole-body
counter (WBC) analysis. On a total of 28,670 metaphases scored,
radiation-induced chromosome damage is still present, although at a
very low frequency. Due to the very low fraction of dicentrics,
because of the time elapsed from the accident and the relatively low
doses of exposure, radiobiological dosimetry is not possible for
these children. However, considering that the WBC data indicate that
the children are still exposed to 137Cs contamination, the observed
occurrence of stable chromosome rearrangements and breaks may
represent the persisting effect of continuous low doses of radiation.
The present study also indicates that the parallel use of internal
contamination dosimetry and cytogenetics could be usefully employed
to monitor individual exposure to radiation and to define further
management measures. Author-abstract.

57

AN 93379500. 93000.
AU Bochkov-N-P.
TI `Analytic review of cytogenetic studies after the *Chernobyl*
accident:.
SO Vestn-Ross-Akad-Med-Nauk. 1993. (6). P 51-6.
JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-ACADEMIC (RAC).
AB 35 Refs.

58

AN 93366492. 93000.
AU Dolk-H. Lechat-M-F.
IN Environmental Epidemiology Unit, London School of Hygiene and
Tropical Medicine, UK.

TI Health surveillance in Europe: lessons from EUROCAT and *Chernobyl.*
SO Int-J-Epidemiol. 1993 Jun. 22(3). P 363-8.
JT INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.
PT JOURNAL-ARTICLE (ART).

59

AN 93353737. 93000.
AU Nagataki-S.
IN 1st Department of Internal Medicine, Nagasaki University School of
Medicine.
TI `Thyroid diseases after *Chernobyl* accident:.
SO Rinsho-Byori. 1993 Apr. 41(4). P 345-52.
JT RINSHO BYORI. JAPANESE JOURNAL OF CLINICAL PATHOLOGY.
PT JOURNAL-ARTICLE (ART).
AB Radioactive iodine is released at every atomic-bomb testings and
nuclear plants accidents and radioactive iodine is taken up by
thyroid glands (internal radiation). In addition to the internal
radiation, radioactive fallout causes the external radiation and
thyroid glands are known to be sensitive to the external radiation.
Furthermore, patients with radiation-induced thyroid disease can
survive for a long time regardless of the treatment. The survey of
thyroid diseases, therefore, is very sensitive and reliable ways to
investigate the effects of radiation caused by atomic bomb explosion,
testing and various types of nuclear plants' accidents. Our group
from Nagasaki University was asked investigate the thyroid diseases
and joined to the Sasakawa Project. In order to investigate the
effects of radiation on thyroid disease, it is essential 1) to make
a correct diagnosis in each subject, 2) to calculate a correct
radiation dose in each subject and finally, 3) to find out the
correlation between the radiation dose and thyroid diseases including
age-, sex- and area-matched controls. We have established 5 centers
(1 in Russia, 2 in Belarus, 2 in Ukraine) and supplied the most
valuable ultrasonography instruments, commercial kits for the
determination of serum free T4 and TSH level and for the
autoantibodies, instrument for urinary iodine measurements, syringes,
tubes, refrigerators, etc. We visit each center often and asked
peoples at centers to come to Japan for training. Protocol of
investigation is essentially the same as that in Nagasaki, and we are
planning to investigate more than 50,000 children within 5 years. We
are hoping to show a definite conclusion in the near future.(ABSTRACT
TRUNCATED AT 250 WORDS). Author-abstract.

60

AN 93349275. 93000.
AU Lokobauer-N. Franic-Z. Bauman-A.
IN Institut za medicinska istrazivanja i medicinu rada Sveucilista u
Zagrebu, Hrvatska.
TI `Protection of the Croatian population from accidental radioactive
contamination of the food chain:.
SO Arh-Hig-Rada-Toksikol. 1993 Mar. 44(1). P 55-64.

JT ARHIV ZA HIGIJENU RADA I TOKSIKOLOGIJU.

PT JOURNAL-ARTICLE (ART).

AB The paper indicates the importance of investigating radionuclide translocation in the human food chain, and the contribution of selected food components in total exposure of the population after accidental radioactive contamination. Data on radioactive contamination and risk assessment of the Croatian population after the *Chernobyl* nuclear accident are given and possibilities of decontamination of food chain components are discussed. Literature data on radionuclide removal from the human food chain are compared to the results of own investigations. Emphasis is placed on biologically most important radionuclides, ¹³¹I, ⁹⁰Sr, ¹³⁷Cs, and the most effective means of protection are sought. The preventive measures following a nuclear accident should be based on the cost-benefit principle i.e. the damage from applying radiation protection measures should not exceed the benefit from possible dose reduction. Author-abstract.

61

AN 93338369. 93000.

AU Buzunov-V-A. Druzhinin-A-M. Druzhinina-E-S.

TI `An attempt to study the psychological sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vestn-Ross-Akad-Med-Nauk. 1993. (3). P 27-31.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART).

AB The paper describes the image of radiation menace. Basic differences in image parameters are revealed for some population groups. The psychological levels of the image are regarded as psychosocial phenomena. Some specific psychological consequences of mental regression are outlined in the paper. Author-abstract.

62

AN 93331092. 93000.

AU Schimmack-W. Forster-H. Bunzl-K. Kreutzer-K.

IN GSF-Forschungszentrum fur Umwelt und Gesundheit, Institut fur Strahlenschutz, Neuherberg, Germany.

TI Deposition of radiocesium to the soil by stemflow, throughfall and leaf-fall from beech trees.

SO Radiat-Environ-Biophys. 1993. 32(2). P 137-50.

JT RADIATION AND ENVIRONMENTAL BIOPHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The amount of *Chernobyl-derived* ¹³⁷Cs transferred to the soil by stemflow, throughfall (precipitation under the tree crown), and leaf-fall from three beeches was investigated as a function of time in the growing seasons of 1991 and 1992. Up to 70 Bq/week was deposited with the stemflow, mainly in dissolved form (< 0.45 micron) rather than in particulate form (> 0.45 micron). The ratio of dissolved radiocesium to particulate radiocesium was about 10 in the stemflow. It varied considerably with time, but since these

variations followed the same pattern for all three trees, they indicated a common cause to be responsible for the fractionation of radiocesium (e.g. meteorological conditions for bark weathering). A significant correlation was observed for the amount of dissolved ^{137}Cs (in Bq) and the amount of stemflow (in liters). The ^{137}Cs concentration in the stemflow (in Bq/l), however, decreased with increasing stemflow intensity (in Bq/week). For particulate radiocesium such correlations were not detected. Up to 5 Bq/m² per week was deposited with the throughfall from the canopy, mainly in particulate form (ratio dissolved radiocesium to particulate radiocesium = 0.34). The mean total annual amounts of ^{137}Cs deposited to the ground (dissolved+particulate) for the three trees were: stemflow: 1991 600 Bq; 1992 460 Bq; throughfall: 1991 and 1992 approximately 100 Bq/m² each; leaf fall: 1992 approximately 10 Bq/m². The data indicate that at present a substantial amount of the radiocesium in the leaves derives already from root uptake.

Author-abstract.

63

AN 93322171. 93000.

AU Voigt-G. Muller-H. Paretzke-H-G. Bauer-T. Rohrmoser-G.

IN GSF-Institut für Strahlenschutz, Neuherberg.

TI ^{137}Cs transfer after *Chernobyl* from fodder into chicken meat and eggs.

SO Health-Phys. 1993 Aug. 65(2). P 141-6.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The distribution and the biological half-lives of ^{137}Cs in poultry after continuous intake of foodstuffs contaminated by the *Chernobyl* fallout were studied in order to determine transfer coefficients to yolk, albumen, and shell of eggs as well as transfer coefficients to chicken meat. Mean values for laying hens were found to be 0.2 d kg⁻¹ (whole consumable egg), 1.2 d kg⁻¹ (leg meat), and 1.6 d kg⁻¹ (breast meat) when radiocesium was fed in contaminated grass pellets, and about twice as large i.e., 0.4 d kg⁻¹ (whole consumable egg), 2.8 d kg⁻¹ (leg meat), and 3.0 d kg⁻¹ (breast meat): when radiocesium was fed in contaminated wheat. Reducing effects of the feed additive ammonium-ferric-cyano-ferrate in concentrations of 0.66 g kg⁻¹ of feed mixture on the contamination of hen products were quantified to be a factor of 3 to 4 (whole consumable egg and meat after grass pellet feeding) and 8 to 14 (whole consumable egg and meat after wheat feeding). A drastically higher reduction with an ammonium-ferric-cyano-ferrate dose twice as large (1.33 g kg⁻¹) was achieved. For broiler chickens, activity concentration ratios of meat to feed were derived for various fattening periods, with mean values of about 0.3 (leg), 0.4 (breast), and 0.2 (liver). The addition of ammonium-ferric-cyano-ferrate reduced the activity concentrations in meat by factors of more than 6. Author-abstract.

64

AN 93318443. 93000.

AU Ushakov-I-B. Soldatov-S-K.

TI `An analysis of the health status of helicopter pilots who participated in the cleanup of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Voen-Med-Zh. 1993 Apr. (4). P 77-9.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

65

AN 93318440. 93000.

AU Borisenko-I-A. Tiantov-G-A. Perepelkin-V-S.

TI `The organization of epidemic control measures in the cleanup of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Voen-Med-Zh. 1993 Apr. (4). P 67-9.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

66

AN 93318439. 93000.

AU Zholus-B-I. Novozhilov-G-N. Grebenkov-S-V. Romanovich-I-K.

TI `The efficacy of the health and hygiene measures in the cleanup of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Voen-Med-Zh. 1993 Apr. (4). P 63-6.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB Sanitary-hygienic measures which were carried out in units during liquidation of the *Chernobyl* disaster consequences have assured favourable hygienic conditions and promote the accomplishing of their mission. Questions of accommodation, water supply and meals were efficiently resolved. Most complicated were the problems of territory clearing, personnel decontamination, as well as bath and laundry service in field conditions at radioactive contamination zones. Basic trends of prophylactic work were as following: hygienic normalization and regulations, sanitary-epidemiologic control and anti-epidemic measures. Author-abstract.

67

AN 93318427. 93000.

AU Guskova-A-K.

TI `The clinical and organizational aspects of the cleanup of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station (7 years' experience of practical activities):.

SO Voen-Med-Zh. 1993 Apr. (4). P 14-20.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

68

AN 93303764. 93000.

AU Konopleva-A-A. Grodzinskii-D-M. Zheltonozhskaia-L-V.

TI `A morphogenetic analysis of a callus culture of *Nicotiana tabacum* L. in chronic irradiation of the plants:.

SO Tsitol-Genet. 1993 Jan-Feb. 27(1). P 63-7.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The callus culture of *Nicotiana tabacum* L. was obtained from the plants chronically irradiated in 10 km zone of *Chernobyl* Atomic Power Station. The tobacco plants in 10 km zone of *Chernobyl* during the vegetation period exposed to irradiation with the average dose rate of 0.36 mA/kg (5 mP/h). The total absorbed dose was approximately 0,31 Gy. The morphogenetic analysis of this culture shows a considerable decrease of regeneration index and callus weight. Author-abstract.

69

AN 93295954. 93000.

AU Little-J.

IN SEARCH Programme, Unit of Analytical Epidemiology, International Agency for Research on Cancer, Lyon, France.

TI The *Chernobyl* accident, congenital anomalies and other reproductive outcomes.

SO Paediatr-Perinat-Epidemiol. 1993 Apr. 7(2). P 121-51.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).

AB Studies of the association between the *Chernobyl* accident in April 1986 and reproductive outcome, with particular reference to congenital anomalies, are reviewed. All of the studies so far have been based on the detection of a change in frequency over time. An increased frequency of trisomy 21 in the former West Berlin in January 1987, and increases in the frequency of neural tube defects in several small hospital-based series in Turkey, are not confirmed in larger and more representative series in Europe. No clear changes in the prevalence at birth of anomalies which might be associated with the accident are apparent in Byelorussia or the Ukraine, the republics with the highest exposure to fallout. However, these data are difficult to interpret as the methods of acquisition have not been described and they have not yet been reported in full. Thus, there is no consistent evidence of a detrimental physical effect of the *Chernobyl* accident on congenital anomalies. This is also the case for other measured outcomes of pregnancy. There is evidence of indirect effects--an increase in induced abortions substantial enough to show as a reduction in total births, due to anxieties created. Data are not available on the reproductive outcomes of women pregnant at the time of the accident who were evacuated from the 30 km zone of immediate contamination, of workers in the plant at the time of the accident or of decontamination workers. Moreover, no data are available from several of the other countries closest to the *Chernobyl* area. Author-abstract. 56 Refs.

70

AN 93293027. 93000.

AU Nikolenko-VIu. Valutsina-V-M. Lastkov-D-O. Trinus-K-F.

TI `Status of the vestibular analyzer and psychophysiologic parameters in miners and crew members cleaning up the consequences of the *Chernobyl* nuclear plant accident:.

SO Gig-Tr-Prof-Zabol. 1992. (9-10). P 5-7.

JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA.

PT JOURNAL-ARTICLE (ART).

AB Status of the vestibular analyzer and psychophysiologic parameters were studied in 20 miners with the long length of service and in 16 liquidators of *Chernobyl* atomic power station accident consequences. Liquidators showed the reliably increased latent periods of P1, N1 and P2 spikes of vestibular evoked potentials, considerably increased latent time of the complicated oculomotor reaction and lowered rate of information processing. Exposure to increased radiation dose during the work at *Chernobyl* atomic power station was a main factor to influence on the functional status of vestibular analyzer. Author-abstract.

71

AN 93288045. 93000.

AU Verschaeve-L. Domracheva-E-V. Kuznetsov-S-A. Nechai-V-V.

IN Department of Biology, SCK/VITO, Mol, Belgium.

TI Chromosome aberrations in inhabitants of Byelorussia: consequence of the *Chernobyl* accident.

SO Mutat-Res. 1993 Jun. 287(2). P 253-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB A cytogenetic analysis was performed on peripheral blood lymphocytes from 35 persons belonging to the 'general population' of Gomel or its surroundings (Byelorussia). This region was heavily contaminated by the nuclear fall-out following the radiation accident at *Chernobyl.* An elevated frequency of chromosome aberrations was found in most of the subjects. The type and frequency of the aberrations revealed past and possibly present radiation exposure which could be ascribed to the accident at the *Chernobyl* nuclear plant about 5 years prior to the analysis. Author-abstract.

72

AN 93275967. 93000.

AU Frolova-N-P. Popova-O-N. Taskaev-A-I.

TI `A rise in the incidence of teratological changes in *Plantago lanceolata* L. seedlings of the 5th post-accident reproduction in the 30-kilometer area of the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologiya. 1993 Mar-Apr. 33(2). P 179-82.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB It was for the first time that of the fifth year of monitoring of

Plantago lanceolata L., reproduced within the thirty-kilometer zone of *Chernobyl* NPP disaster, the authors discovered high incidence of seedlings with various morphological abnormalities. It is suggested that the damages observed are related to the cumulative effect of radiation. Author-abstract.

73

AN 93275005. 93000.
TI *`Chernobyl* 7 years after the disaster. Increased number of thyroid cancer:.
SO Lakartidningen. 1993 May 19. 90(20). P 1934.
JT LAKARTIDNINGEN.
PT JOURNAL-ARTICLE (ART).

74

AN 93269884. 93000.
AU Nauman-J. Wolff-J.
IN Department of Endocrinology, University Medical School, Warsaw, Poland.
TI Iodide prophylaxis in Poland after the *Chernobyl* reactor accident: benefits and risks.
SO Am-J-Med. 1993 May. 94(5). P 524-32.
JT AMERICAN JOURNAL OF MEDICINE.
PT JOURNAL-ARTICLE (ART).

75

AN 93269454. 93000.
AU Lobkova-O-S. Mitin-IuA. Vologzhanin-D-A.
TI `The characteristics of allergic diseases in people exposed to the factors of a radiation catastrophe:.
SO Voen-Med-Zh. 1993 Mar. (3). P 23-5, 80.
JT VOENNO-MEDITSINSKII ZHURNAL.
PT JOURNAL-ARTICLE (ART).
AB The article deals with peculiarities of allergic diseases (bronchial asthma, pre-asthma, pollinosis) in patients who were exposed to the factors of radiative, catastrophe. Screening--questionnaire was made on 381 patients who went through the *Chernobyl* disaster. 46 patients from this number who had various allergic diseases were chosen for specific diagnostics and immunological researches. A conclusion was made that critical systems of organism, and especially the immune systems had the major significance for the development and outcome of radiative injuries. The disorders in these systems contribute to the development of allergic diseases. Author-abstract.

76

AN 93269452. 93000.
AU Nikiforov-A-M. Pershin-A-V. Shcherbak-S-G. Listopadov-IuI.
TI `The course of duodenal peptic ulcer in the participants in the cleanup of the aftereffects of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Voen-Med-Zh. 1993 Mar. (3). P 19-20.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB 80 liquidators of *Chernobyl* disaster with aggravation of duodenal ulcer were examined, as well as a control group of 70 patients. In the group of liquidators some characteristic features were disclosed, namely peculiarities in the state of abdominal mucosa and clinical course of the disease. These data were obtained in the results of hematological, immunological and biochemical researches. Author-abstract.

77

AN 93259815. 93000.

AU Talbot-R-J. Newton-D. Warner-A-J. Walters-B. Sherlock-J-C.

IN Biomedical Research Department, AEA Environment and Energy, Harwell Laboratory, Oxon, UK.

TI Human uptake of ¹³⁷Cs in mutton.

SO Health-Phys. 1993 Jun. 64(6). P 600-4.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The uptake of radiocesium from mutton contaminated by fallout from the *Chernobyl* reactor accident has been studied in eight healthy male volunteers. Each subject consumed, on adjacent days, two meals prepared from the mutton containing a total of 0.8 kBq ¹³⁷Cs. The elevation and subsequent decline in whole-body content were determined from body radioactivity measurements prior to the meals and at intervals up to 15 wk afterwards. Clearance of ¹³⁷Cs between 1 and 15 wk showed a biological half-time of 102 +/- 24 (SD) d, (range 84-154 d). The fraction cleared with this half-time was 80 +/- 4% (range 72-85%). No attempt was made to determine the early retention and excretion but, if the ICRP's assumption of 10% clearance with a 2-d half-life were valid, the data would indicate an average uptake (f₁) of 89%, i.e., marginally lower than the value of 100% assumed in setting limits on intake. Author-abstract.

78

AN 93259814. 93000.

AU Likhtarev-I-A. Shandala-N-K. Gulko-G-M. Kairo-I-A. Chepurny-N-I.

IN Ukrainian Scientific Center of Radiation Medicine, Kiev.

TI Ukrainian thyroid doses after the *Chernobyl* accident.

SO Health-Phys. 1993 Jun. 64(6). P 594-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB To estimate thyroid radioactivity in the Ukrainian population from May-June 1986, more than 150,000 individual examinations were carried out by special dosimetric teams. The results of these total measurements were approved to be a basis for assessing individual absorbed doses of infant and adult thyroid irradiation associated with the ¹³¹I exposure. The dosimetric radioiodine data bank of thyroid irradiation of the Ukrainian population was created to

analyze these measurements. The analysis was performed using the data for eight Ukrainian districts and the town of Pripjat, which were all heavily contaminated due to radioiodine exposure. Results of the dose assessments are given using two models: the more conservative model of "single radioiodine intake" and a more realistic model that considers the individual duration of radioiodine intake. In accordance with the more realistic model, the predictions of late effects have shown that a collective thyro-oncogenic dose is equal to 64,000 person-Gy, stimulating the possibility of the emergence of 300 cases (30 incurable) of thyrocancers. Considering this information for the next 35 y (1991-2026), it is possible to predict a 1.4-fold increase over spontaneous thyroid cancer morbidity for children who lived in the heavily contaminated regions of the Ukraine in 1986 (spontaneous and radiogenic to spontaneous).
Author-abstract.

79

AN 93259804. 93000.
AU Ohlenschlaeger-M. Gissel-Nielsen-G. Nielsen-S-P.
IN Environmental Science and Technology Department, Riso National Laboratory, Roskilde, Denmark.
TI Differences in the sensitivity of barley varieties to direct cesium contamination from the *Chernobyl* accident.
SO Health-Phys. 1993 May. 64(5). P 535-7.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB A number of winter and spring barley (*Hordeum vulgare* L) varieties were tested for sensitivity to direct cesium contamination in Denmark arising from the *Chernobyl* accident. Significant differences among varieties were revealed which were independent of crop growing conditions. Results indicate that different sensitivities among varieties result from genetic or morphological differences.
Author-abstract.

80

AN 93259803. 93000.
AU Scheid-W. Weber-J. Petrenko-S. Traut-H.
IN Institute of Radiation Biology, University of Munster, F.R.G.
TI Chromosome aberrations in human lymphocytes apparently induced by *Chernobyl* fallout.
SO Health-Phys. 1993 May. 64(5). P 531-4.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Sixteen people (15 from Byelorussia, one from Kiev) possibly exposed to radioactivity released by the *Chernobyl* accident were investigated for chromosome aberrations induced in lymphocytes. Statistically significant increases of the yield of dicentric chromosomes were observed in five people. Author-abstract.

81

AN 93259796. 93000.

AU Bonazzola-G-C. Ropolo-R. Facchinelli-A.

IN Dipartimento di Fisica Sperimentale, Universita' di Torino, Italy.

TI Profiles and downward migration of ¹³⁴Cs and ¹⁰⁶Ru deposited on Italian soils after the *Chernobyl* accident.

SO Health-Phys. 1993 May. 64(5). P 479-84.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* accident, several radionuclides were deposited on the soil of the Piemonte Region in Italy. Contamination values were monitored and the initial vertical soil profiles of ¹³⁴Cs and ¹⁰⁶Ru were determined. For both radionuclides, more than 60% of the total activity remained in the upper 1-cm layer of soil during the first 7 mo after the accident. The time history of the soil profiles was studied over a period of 3 y in two Piedmontese localities. A compartmental model was also developed to describe downward migration of ¹³⁴Cs and ¹⁰⁶Ru. The results indicated a low mobility for both radionuclides. The change in their vertical profiles may be described using a box model with a transfer constant of 0.2 y⁻¹ for ¹³⁴Cs and 0.3 y⁻¹ for ¹⁰⁶Ru between 1-cm-thick layers. A strong association between the soil fine fraction and the mobility of both radionuclides was also found. Author-abstract.

82

AN 93259795. 93000.

AU Henrich-E. Steinhausler-F.

IN Federal Ministry of Health, Sports and Consumer Protection, Radiation Protection Department, Vienna, Austria.

TI Dose assessment for recent inhabitants living adjacent to zones heavily contaminated from the *Chernobyl* fallout.

SO Health-Phys. 1993 May. 64(5). P 473-8.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Within the framework of the "International *Chernobyl* Project," selected areas in the Republics of Ukraine, Belarus, and Russia of the former USSR, contaminated by radioactive fallout from the *Chernobyl* accident in 1986, were investigated by international teams. In addition, environmental studies were carried out in areas officially declared as "uncontaminated regions" in order to corroborate this classification and to provide reference baseline data for the simultaneously performed medical investigations on health effects in the contaminated areas. Altogether, 141 measurements of the gamma dose rate, both outdoors and indoors, were carried out. Also, the radionuclide concentration in 58 soil and food sample was determined. In addition, results from 1,620 individual film dosimeter readings were analyzed. The results show that, in areas adjacent to those officially designated as contaminated regions (¹³⁷Cs surface ground contamination > or = 37 kBq m⁻²), levels of environmental fallout contamination are insignificant. The additional resulting committed effective dose

over the next 70 years due to the fallout is only a fraction of the corresponding value from the natural radiation environment.
Author-abstract.

83

AN 93257496. 93000.

AU Dolgov-V-A. Krylova-T-V. Tsiperson-V-P. Oleinichenko-VIu.
Nikolskii-V-S. Lobachev-V-S.

TI `The biological indication of the radiation load in forest
communities of small mammals:.

SO Biol-Nauki. 1992. (11-12). P 127-33.

JT BIOLOGICHESKIE NAUKI.

PT JOURNAL-ARTICLE (ART).

AB The content of cesium-137 in the organisms of different species of small mammals in forests of Bryansk Province five years later the *Chernobyl* accident varies to a great extent within some modal value $n.10(-6)-n.10(-7)$ Cu/kg. Gamma-radiation is about 200 mR/h. The revealed radiation level results in increased mortality during embryonal and postnatal periods, as during these periods a very intensive process of radiocesium accumulation in the animal organism takes place. Statistically valid differences of young and old animals ratio with the asymmetrical deviation towards old age groups have been found on the polluted territory at the end of summer season. Author-abstract.

84

AN 93257491. 93000.

AU Krylova-T-V. Skurat-L-N. Dolgov-V-A.

TI `The reproductive potential of the bank vole (*Clethrionomys glareolus* Schreb) and of the tundra vole (*Microtus oeconomus* Pall.) under the conditions of the elevated radiation background of Bryansk Province:.

SO Biol-Nauki. 1992. (10). P 109-18.

JT BIOLOGICHESKIE NAUKI.

PT JOURNAL-ARTICLE (ART).

AB The continuous irradiation (connected with the accident on the *Chernobyl* atomic power plant) by cesium-137 of the dominant species of rodents (*Clethrionomys glareolus*, *Microtus oeconomus*) in the forests of Bryansk Province had a deteriorating effect on the state of reproductive organs and on the course of embryogenesis, stimulated the reproduction cycle but inhibited the rate of sexual maturation and increased the death-rate of young animals. These effects resulted in significant ageing of the population. But all these phenomena provoked by radiation are within the limits of rodents adaptive capacities. Author-abstract.

85

AN 93252247. 93000.

AU Chekhovich-A-V. Pomerantseva-M-D. Ramaia-L-K. Shevchenko-V-A.

TI `Genetic disorders in laboratory mice, exposed in the region of the *Chernobyl* Atomic Power Plant four years after the accident:.

SO Genetika. 1993 Feb. 29(2). P 312-22.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Mice (CBA x C57BL)F1, of both sex and males C57BL were exposed within the 10 km zone of the *Chernobyl* Nuclear Power Station during 14, 22 and 34 days. Genetic damages of chronic radiation in the exposed adult mice, and in the course of embryogenesis, was studied. The gonadal absorbed radiation doses of the exposed mice varied from 0.5 to 1.5 Gy. The frequencies of dominant lethal mutations, abnormal sperm heads and reciprocal translocations linearly increase with increasing absorbed radiation doses. Among 49 males exposed at the embryonal stage one male heterozygote for reciprocal translocation was revealed. In other males of this group, reciprocal translocation yield was low. No uniform dependence of genetic effects from mice genotype was revealed. Author-abstract.

86

AN 93252242. 93000.

AU Kalchenko-V-A. Arkhipov-N-P. Fedotov-I-S.

TI `Mutagenesis of enzyme loci, induced in megaspores of *Pinus sylvestris* L. by ionizing radiation from the accident at the *Chernobyl* Atomic Power Plant:.

SO Genetika. 1993 Feb. 29(2). P 266-73.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Mutagenesis of alleles of 20-allozyme loci was studied using the electrophoresis methods in polyacrylamide gel in seeds of *Pinus sylvestris* within the 30 km zone of the *Chernobyl* NNP and the limits of contamination levels by Cs-137 from 5 up to 600 Cu/km (the absorbed doses being 0.5 to 10 Gy). The frequency of emergence of corresponding mutations which change the synthesis of enzymes in endosperms within the zone constituted on the average 2.7-10 per gene as compared with 0.6-10 in control version. Linear dependence was observed between low doses absorbed and the frequency of gene mutations, while in case of high doses this decreased. Genetic effectivity was 0.001 mutations/locus/Gy. Various radiosensitivity levels were shown among the loci studied. Spontaneous level of mutations frequency in *P. sylvestris* populations was found to be within the limits of 0.5 to 1.5 Gy under conditions of the 30 km zone. The high rate of mutagenesis was revealed in seeds of the first two post-accident reproductions. Author-abstract.

87

AN 93241915. 93000.

AU Moberg-L. Reizenstein-P.

IN Forskningssekretariatet, Statens Stralskyddsinstitut, Stockholm.

TI `Health effects in Sweden of the *Chernobyl* accident:.

SO Nord-Med. 1993. 108(4). P 117-20.

JT NORDISK MEDICIN.

PT JOURNAL-ARTICLE (ART).

AB An international committee (2) which has studied the health and environmental effects of the *Chernobyl* accident within the borders of the former Soviet Union does not expect that any increase in cancer frequency among adults can be demonstrated epidemiologically. However, the possibility of an observable increase in the incidence of thyroid cancer and increase in juvenile leukemia could not be excluded. The statistics in Sweden is more accurate, though the radiation doses were significantly lower. It would appear to be unlikely that any changes in cancer incidence (even among children), in mental development in children, in malformations or genetic changes ascribable to the *Chernobyl* accident will ever be demonstrated in Sweden. Author-abstract.

88

AN 93228416. 93000.

AU Birioukov-A. Meurer-M. Peter-R-U. Braun-Falco-O. Plewig-G.

IN Department of Dermatology, Ludwig-Maximilians-Universitae, Munich, Germany.

TI Male reproductive system in patients exposed to ionizing irradiation in the *Chernobyl* accident.

SO Arch-Androl. 1993 Mar-Apr. 30(2). P 99-104.

JT ARCHIVES OF ANDROLOGY.

PT JOURNAL-ARTICLE (ART).

AB Twelve men with different forms and stages of chronic radiation dermatitis caused by accidental exposure to beta and gamma irradiation during and after the *Chernobyl* atomic power plant accident were examined. Two patients had impotentia coeundi, and the others reported various impairments of sexual function. One patient had aspermia, two patients had azoospermia, one had oligospermia, and four had normal sperm counts. In three samples abnormal forms of spermatozoa were increased. Sperm motility was decreased in 3 samples and was normal in another. Hormonal analyses demonstrated low testosterone plasma levels in two patients, an increase of follicle stimulating hormone (FSH) levels in six patients, and a decrease of luteinizing hormone (LH) in one patient. In one patient who showed an increase of plasma prolactin level, associated with low testosterone and LH, a microadenoma of the pituitary gland (prolactinoma) was detected. It would appear that there is an association between accidental exposure to ionizing radiation of varying severity and the impairment of exocrine and endocrine testicular function, sometimes resulting in long-lasting physiological and psychological problems. Author-abstract.

89

AN 93227006. 93000.

AU Molzahn-D. Assmann-Werthmuller-U.

IN Kernchemie im FB Phys. Chemie, Philipps-Universitat Marburg, Germany.

TI Caesium radioactivity in several selected species of honey.

SO Sci-Total-Environ. 1993 Mar 25. 130-131. P 95-108.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB In the years following the accident to the nuclear power plant at *Chernobyl,* investigations on several selected species of honey were done to determine their $^{134},^{137}\text{Cs}$ contamination. Very low caesium activities were found in flower honeys, especially rape honeys. The transfer factor of caesium from the soil to the rape plant (*Brassica napus* var. *oleifera*) was found to be $f_{\text{Cs}} = 0.116 \pm 0.080$ in 1987, but only $f_{\text{Cs}} = 0.017 \pm 0.017$ in 1988, due to the lower availability of the caesium by gradual formation of water-insoluble chemical species. Honeydew honeys show a slightly higher $^{134},^{137}\text{Cs}$ contamination. Honeydew is often produced by lice setting on spruces. Therefore, needles and twigs of spruces (*Picea abies*) were investigated and relatively high caesium contamination was found in fresh needles. A transfer factor for caesium from spruce needles to honeydew honey of about 0.1 was estimated. Finally, the caesium contamination in heather honeys and heather plants (*Calluna vulgaris*) was determined. Surprisingly higher factors between 2 and 40 were obtained for the caesium transfer from soil to *Calluna vulgaris*. These factors give a good explanation for the relatively high caesium contamination of heather honeys. Author-abstract.

90

AN 93226728. 93000.

AU Aleksakhin-R-M.

TI `The radioecological lessons of *Chernobyl*.*

SO Radiobiologia. 1993 Jan-Feb. 33(1). P 3-14.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB This paper presents the results of radioecological studies undertaken within the area exposed to ionizing radiation after *Chernobyl* disaster. Conclusions are made concerning the major regularities in radionuclide migration within various natural media and action of ionizing radiation on natural and artificial ecosystems. The efficiency of basic protective ecological measures in eliminating the accident consequences has been determined. The contribution of radioecological studies to the elimination of *Chernobyl* disaster sequences assessed. Author-abstract.

91

AN 93226727. 93000.

AU Ladanova-N-V.

TI `The ultrastructural organization of pine needles after radiation exposure:.

SO Radiobiologia. 1993 Jan-Feb. 33(1). P 25-30.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Pine assimilative tissue was studied in the region of *Chernobyl* Power Plant accident the 1986-1988. With radiation doses of 8-11 Gy pine needle was viable inspite of the significant structural changes in cell organelles. With doses of 20-25 Gy the inner structure of

mesophyll cells was impaired. High radiosensitivity was displayed by mitochondria and chloroplasts where irreversible destruction of membrane systems occurred. Author-abstract.

92

AN 93226724. 93000.

AU Polikarpov-G-G. Aarkrog-A.

TI `The radioecological problems of Eurasia and the sources of radioactive environmental contamination in the former USSR:.

SO Radiobiologiya. 1993 Jan-Feb. 33(1). P 15-24.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB There is three major sites of radioactive environmental contamination in the former USSR: the Chelyabinsk region in the Urals, *Chernobyl* NPP in Ukraine and Novaya Zemlya in the Arctic Ocean. The first mentioned is the most important with regard to local (potential) contamination, the last one dominates the global contamination. A number of sites and sources are less well known with regard to environmental contamination. This is thus the case for the plutonium production factories at Tomsk and Dodonovo. More information on nuclear reactors in lost or dumped submarines is also needed. From a global point of view reliable assessment of the radioactive run-off from land and deposits of nuclear waste in the Arctic Ocean are in particular pertinent. Author-abstract.

93

AN 93225394. 93000.

AU Mamchich-V-I. Pogorelov-A-V.

TI `Surgical treatment of nodular goiter after the accident at the *Chernobyl* nuclear power station:.

SO Klin-Khir. 1992. (12). P 38-40.

JT KLINICHESKAIA KHIRURGIYA.

PT JOURNAL-ARTICLE (ART).

AB The data on incidence of goiter in inhabitants of Kiev province for 5 years after *Chernobyl* accident, increase in number of operations performed for nodular forms of autoimmune thyroiditis and thyroid cancer are presented. Author-abstract.

94

AN 93224819. 93000.

AU Yarin-A-A. Belyakov-I-M. Kusmenok-O-I. Arshinov-V-Y.

Simonova-A-V. Nadezhina-N-M. Gnezditskaya-E-V.

IN Institute of Immunology, Ministry of Public Health of Russia, Moscow, Russia.

TI Late T cell deficiency in victims of the *Chernobyl* radiation accident: possible mechanisms of induction.

SO Int-J-Radiat-Biol. 1993 Apr. 63(4). P 519-28.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB T cell number, serum concentrations of thymic hormones and

anti-epithelial autoantibodies were studied in people affected at *Chernobyl* NPP. Group 1 took part in the clearing-up operation and had no clinical manifestations of acute radiation sickness. Group 2 worked at the NPP during the accident; they survived acute radiation sickness (degree I-II, subgroup 2a; degree III-IV, subgroup 2b). The total doses of external radiation were 0.1-0.5 Gy in group 1, up to 4 Gy in subgroup 2a and up to 9 Gy in subgroup 2b. Total T cell number, serum thymic activity and alpha 1-thymosin concentration were decreased in all groups of affected persons. CD8+ cell number decreased only in group 1; CD4+ cell number in subgroup 2b. A decrease in thymic hormone level was most prominent in subgroup 2b. The titres of anti-epithelial antibodies were increased in all groups of affected persons independently of radiation dose. The titres were higher in patients with subnormal levels of alpha 1-thymosin. It has been proposed that radiation alters the function of thymic epithelial cells by direct action and/or through indirect mechanisms including participation of autoantibodies. The observed complex of alterations is similar to that in the normal process of immunological ageing. Author-abstract.

95

AN 93219510. 93000.

AU Ginzburg-H-M.

IN Office of Emergency Preparedness, PHS, Rockville, MD.

TI The psychological consequences of the *Chernobyl* accident--findings from the International Atomic Energy Agency Study.

SO Public-Health-Rep. 1993 Mar-Apr. 108(2). P 184-92.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

AB In October 1989, more than 3 years after the nuclear power plant accident at *Chernobyl,* in the Ukraine, the Government of the Union of Soviet Socialist Republics requested that the International Atomic Energy Agency (IAEA) evaluate the medical and psychological health of residents living in areas identified as being contaminated with radioactive fallout. The IAEA designed and conducted a collaborative study to examine whether there were any measurable effects of exposure to the low levels of ionizing radiation resulting from the accident. The study, using structured interviews and IAEA laboratory equipment, collected data on more than 1,350 residents of 13 villages. IAEA clinical staff members concluded that they could not identify any health disorders in either the contaminated or nearby (uncontaminated) control villages that could be attributed directly to radiation exposure. The clinical staff, however, did note that the levels of anxiety and stress of the villagers appeared to be disproportionate to the biological significance of the levels of IAEA-measured radio-active contamination. Almost half the adults in all the villages were unsure if they had a radiation-related illness. More than 70 percent of persons in the contaminated villages wanted to move away, and approximately 83 percent believed that the government should relocate them. The IAEA effort indicates that the

villagers need to be educated about their actual risks, and they need to understand what types of illnesses are, and are not, associated with exposure to radioactive contamination. Unfortunately, the villagers' needs may exceed the available resources of their local and central governments. Author-abstract.

96

AN 93218775. 93000.
AU Mikulecky-M. Beno-M. Komornik-J.
IN 1st Medical Clinic, Faculty of Medicine, Comenius University,
Bratislava, CSFR.
TI Time delay of maximal human thyroid ¹³¹I uptake after the *Chernobyl*
accident.
SO Naturwissenschaften. 1993 Mar. 80(3). P 125-7.
JT NATURWISSENSCHAFTEN.
PT JOURNAL-ARTICLE (ART).

97

AN 93213213. 93000.
AU Franic-Z. Maracic-M. Bauman-A.
IN Institut za medicinska istrazivanja i medicinu rada Sveucilista,
Zagreb, Hrvatska.
TI `Radioactive contamination of cistern waters along the Croatian coast
of the Adriatic Sea:.
SO Arh-Hig-Rada-Toksikol. 1992 Dec. 43(4). P 329-37.
JT ARHIV ZA HIGIJENU RADA I TOKSIKOLOGIJU.
PT JOURNAL-ARTICLE (ART).
AB Measurements of radioactive contamination of cistern waters with
⁹⁰Sr, ¹³⁴Cs and ¹³⁷Cs have been carried out along the Croatian coast
of the Adriatic Sea. An exponential decline of radioactivity
followed the moratorium on nuclear tests. After the nuclear accident
at *Chernobyl*, high radioactivity levels were detected again. The
pre-Chernobyl and the *post-Chernobyl* mean residence times of ⁹⁰Sr in
cistern waters reflect the mechanism by which strontium was released
to the atmosphere (atmospheric nuclear weapon tests conducted in the
stratosphere or explosions in the *Chernobyl* nuclear reactor releasing
radioactive material to the troposphere). For the *pre-Chernobyl*
period, the mean residence time of ⁹⁰Sr in cistern waters was similar
to that calculated for fallout, being approximately 10 years. The
post-Chernobyl ¹³⁷Cs/⁹⁰Sr activity ratio has been decreasing, but it
has not yet reached the *pre-Chernobyl* values (approximately 1.6).
The time-dependent ¹³⁴Cs/¹³⁷Cs activity ratio reflects the *Chernobyl*
reactor inventory of these radionuclides. The annual dose for the
critical adult population received from ⁹⁰Sr, ¹³⁴Cs and ¹³⁷Cs by
consumption of cistern water was estimated to be a few percentages of
the dose from natural background radiation. Author-abstract.

98

AN 93206466. 93000.
AU Buldakov-L-A. Borisov-V-P. Vasilenko-IIa. Budarkov-V-A.

Miakov-E-A. Turubarova-A-A. Zenkin-A-S. Liaginskaia-A-M.
Belinskaia-F-A. Kalinin-N-F.

TI `The use of ferrocyanides for obtaining pure meat production in
contaminated areas following the accident at the *Chernobyl* Atomic
Electric Power Station:.

SO Vopr-Pitan. 1992 Sep-Dec. (5-6). P 62-5.

JT VOPROSY PITANIIA.

PT JOURNAL-ARTICLE (ART).

AB The paper reports a new technique of obtaining radioactive Cs-free
meat in the regions contaminated with radionuclides as a result of
Chernobyl accident. The method is based on specific digestion
features of ruminant animals. Ferriferrocyanide compounds are
proposed as sorbents. Ferrocene is most efficient when introduced
into mixed feed (1-3 g/day for sheep, 3-5 g/day for calves and young
bulls) once a day. After that the animals can be fed radioactively
contaminated forage and graze on contaminated land.
Author-abstract.

99

AN 93205843. 93000.

AU Telega-D. Telega-G. Wisniowska-R. Pniak-E. Przybycien-J.
Przybycien-B. Wojcik-B. Reichardt-J.

IN Sekcji Pediatricznej Studenckiego Koa Naukowego przy Instytucie
Medycyny Klinicznej, Rzeszowie.

TI `Endemic goiter in the area of Mielec:.

SO Przegl-Epidemiol. 1992. 46(3). P 273-6.

JT PRZEGLAD EPIDEMIOLOGICZNY.

PT JOURNAL-ARTICLE (ART).

AB The scope of this report is the incidence of goiter in school
children living in Mielec and neighbouring villages. We examined a
group of 3537 children aged 6-14. The enlargement of thyroid gland
was observed in 49.3% of the population. Judging by the results of
the research this region can be regarded as endemic. There might be
several reasons for a high incidence of goiter in this region. The
most important are: insufficient iodine prophylaxis, pollution of the
environment including the pollution with radioiodine after the damage
of the *Chernobyl* reactor. Author-abstract.

100

AN 93198066. 93000.

AU Fujita-J. Mikasa-H. Fujii-N. Suzuki-Y. Nishiyama-K.

IN Department of Hygiene, School of Medicine, University of Tokushima,
Japan.

TI Radioactive cesium in dirt accumulations on the roof of buildings.

SO Tokushima-J-Exp-Med. 1992 Dec. 39(3-4). P 117-22.

JT TOKUSHIMA JOURNAL OF EXPERIMENTAL MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB The concentrations of ¹³⁷Cs and ¹³⁴Cs in dirt deposits on the roofs
of buildings are much higher than those in the surface of soil at
ground level. Thus dirt on roofs concentrates radioactive cesium in

fall-outs. The ^{137}Cs concentration in dirt deposits on the roofs of older buildings is not consistently higher than that on the roofs of new ones, but the $^{137}\text{Cs}/^{134}\text{Cs}$ ratio is higher in deposits on older buildings constructed before the first half of the 1970s, and decreases exponentially with decrease in age of the buildings gradually reaching 1.9 ± 0.2 , the value in the air-borne dust at the time of the *Chernobyl* accident. From this relationship, the contribution of *Chernobyl* radioactivity to accumulated ^{137}Cs was calculated as 32% on buildings constructed in 1962. The radioactive cesium concentrations in dirt deposits in gutters of private houses and on the roofs of university buildings in Japan were also determined. Author-abstract.

101

AN 93194543. 93000.

AU Franic-Z. Bauman-A.

IN University of Zagreb, Department for Radiation Protection, Croatia.

TI Radioactive contamination of the Adriatic Sea by ^{90}Sr and ^{137}Cs .

SO Health-Phys. 1993 Feb. 64(2). P 162-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Results of systematic long-term measurements of ^{90}Sr and ^{137}Cs in surface seawater, performed at four locations along the Croatian coast of the Adriatic Sea, are summarized. Observed trends in annual mean activity concentrations are discussed. ^{90}Sr and ^{137}Cs fallout activities affect seawater activity, the coefficient of correlation between ^{90}Sr fallout activity and ^{90}Sr seawater activity being 0.72. No significant variations of ^{90}Sr mean residence time in the sea-mixed layer on different locations were found. From 1978-1985, the $^{137}\text{Cs}:^{90}\text{Sr}$ activity ratio in seawater was 1.52 ± 0.40 . In May 1986, as the consequence of the *Chernobyl* nuclear accident, this ratio increased to 92.4 ± 58.2 . Author-abstract.

102

AN 93194542. 93000.

AU Schuller-P. Lovengreen-C. Handl-J.

IN Instituto de Fisica, Universidad Austral de Chile, Valdivia.

TI ^{137}Cs concentration in soil, prairie plants, and milk from sites in southern Chile.

SO Health-Phys. 1993 Feb. 64(2). P 157-61.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Soil, prairie plants, and milk samples were collected at 39 dairy farms in the 9th and 10th Region in Southern Chile (38 degrees 44'-41 degrees 08' S) between 1982 and 1990. ^{137}Cs concentrations found in soil, plant, and milk samples ranged from 3.8-17.1 Bq kg⁻¹ for soil, from < 0.3-20 Bq kg⁻¹ dry mass for plants, and from 0.10-0.71 Bq kg⁻¹ for milk. Cesium concentration levels resulting from soil sample measurements exhibit a close similarity with corresponding values found in soils from Central Europe before 1986. The concentration

ratio prairie plants:soil ranged from 0.05-0.62, 0.52-5.0, and < 0.02-0.40 corresponding to Dystrandepts, Placandepts, and Palehumults soil groups, respectively. At seven selected dairy farms in the vicinity of Valdivia city (10th Region), soil, prairie plant, and milk samples were taken yearly during the grazing period between 1982 and 1990. Results obtained from soil samples taken after April 1986 show no significant increase of the ¹³⁷Cs concentration. Concentrations in plants and milk for ¹³⁷Cs decreased during the observation time. ¹³⁴Cs (as an indicator of *Chernobyl* fallout) was not found in soil, plant, or milk samples during 1986-1990. Author-abstract.

103

AN 93187462. 93000.
AU Patel-A-A. Prasad-S-R.
IN Institut fur Lebensmittelverfahrenstechnik, Technische Universitat Munchen, Germany.
TI Decontamination of radioactive milk--a review.
SO Int-J-Radiat-Biol. 1993 Mar. 63(3). P 405-12.
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB The *Chernobyl* nuclear reactor accident in Russia in 1986 has further revealed the susceptibility of the environment to radioactive contamination. This can have serious implications for the safety of milk as well as other foods. Global fallout and other isotope releases can threaten to increase the radionuclide levels in milk alarmingly, and thus make it unfit for human consumption. Perception of such fears in the past resulted in considerable research efforts being directed towards radioactive decontamination of milk by different means. The holding of milk and milk products long enough to deactivate certain radioisotopes prior to consumption, conversion of milk into butter, and manufacturing cheese by using modified processes are some of the approaches in minimizing the radioactivity risk to consumers. Extensive studies carried out in the USA have shown that though somewhat expensive, ion-exchange treatment of milk in large-scale, automated plants can eliminate 90% or more of the radionuclides of concern, i.e. strontium-90, and iodine-131, and much of caesium-137. Various factors affecting the efficiency of the ion exchange process and properties of the treated milk are reviewed. Other processing techniques such as electrodialysis are also briefly discussed in relation to removal of radionuclides from milk. Author-abstract. 53 Refs.

104

AN 93187459. 93000.
AU Lang-S. Kosma-V-M. Servomaa-K. Ruuskanen-J. Rytomaa-T.
IN Department of Research, Finnish Centre for Radiation and Nuclear Safety, Helsinki.
TI Tumour induction in mouse epidermal cells irradiated by hot particles.

SO Int-J-Radiat-Biol. 1993 Mar. 63(3). P 375-81.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB We have shown elsewhere that highly non-uniform exposure to ionizing radiation from authentic *Chernobyl-released* and artificially-produced hot particles (fragments of nuclear fuel) transform fibroblastic 10T1/2 cells in vitro effectively. We have also shown that hot-particle exposure leads to mutation and overexpression of the tumour suppressor gene p53 (and some other growth-related genes) in mouse skin in vivo at a high frequency. In the present paper it is shown that hot-particles produced by irradiating natural uranium with slow neutrons, when implanted (immobilized) under the skin of hairless and nude mice, induce epidermal tumours in excess compared with the conventional non-threshold stochastic model of radiation-induced cancer. One explanation for the effectiveness of the hot-particle exposure, under the present assay conditions, is that the same cells in which specific radiation-induced DNA damage is most likely to occur, are forced into sustained mitotic activity in the chronic wound which develops around the radiation source (combined genotoxic and nongenotoxic effects). The results are consistent with a role for cell proliferation in multistage carcinogenesis in mouse skin. Author-abstract.

105

AN 93187457. 93000.

AU Sevankaev-A-V. Tsyb-A-F. Lloyd-D-C. Zhloba-A-A. Moiseenko-V-V. Skrzjabin-A-M. Klimov-V-M.

IN Medical Radiological Research Centre, Russian Academy of Medical Science, Obninsk, Kaluga Region.

TI 'Rogue' cells observed in children exposed to radiation from the *Chernobyl* accident.

SO Int-J-Radiat-Biol. 1993 Mar. 63(3). P 361-7.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Eight 'rogue' lymphocyte metaphases containing a large number of aberrant chromosomes were noted during a survey of chromosomal damage in 328 Belarussian children. The study population comprised children of families living in territory contaminated by radiation from the *Chernobyl* accident. The majority of the sample had been evacuated within 1 week from very heavily polluted territory to areas that had received much less fallout. Two hundred cells were scored per subject and one rogue cell was found in a child exposed in utero; one in a child conceived after the accident and six in the postnatally exposed group. The possibility that the damage was due to exposure to radio-iodine concentrated in the thyroid gland, or to radiation from incorporated 'hot particles' of an alpha or beta/gamma emitter is discussed. It is concluded that the damage to these cells is unlikely to have been caused by radiation. Author-abstract.

106

AN 93182738. 93000.

AU Krasnopol'skii-V-I. Fedorova-M-V. Zhilenko-M-I. Iakovleva-N-I.
Laricheva-I-P. Tsvetaeva-TIu. Orlianskii-N-I.

TI `Pregnancy and labor in women in the region of the accident at the
Chernobyl Atomic Electric Power Station:.

SO Akush-Ginekol (Mosk). 1992. (8-12). P 12-5.

JT AKUSHERSTVO I GINEKOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The authors analyze the tentative results of a multiprofile study, including a review of labor histories, examinations of pregnant women and parturients, measurements of fetoplacental hormones, study of the immunity status and microbiocenosis of the mothers and newborns, living in the first (up to 15 Ci/km²) and second (15 to 40 Ci/km²) zones of radioactive contamination. The detected shifts of a compensatory nature were found mostly in women living in the first zone. The disorders found in the women living in the second zone evidenced a decrease of the defense potential of the body, this necessitating nonspecific and correcting therapy during pregnancy, in labor and the postpartum period. Author-abstract.

107

AN 93182406. 93000.

AU Serdiuk-A-M. Voloshchenko-O-I. Mudryi-I-V. Valovenko-A-G.
Bezrodnaia-E-G.

TI `The ecological and hygienic aspects of the use of surface-active
substances in oil-producing regions of Ukraine:.

SO Vrach-Delo. 1992 Nov-Dec. (11-12). P 29-32.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Use of surface-active substances (SAS) in the oil-extracting regions of the Ukraine should consider the fact that this is a rather small territory, densely populated, with environmental water and soil problems, significant contamination of several areas by pesticides, mineral fertilizers and complicated by the *Chernobyl* accidents sequels. SAS may influence the ecological-hygienic balance of the environment, they may enhance migration of many ingredients, increase their toxicity. The authors propose several measures aimed at improving the quality of preventive and actual state inspection over the oil enterprises. Author-abstract.

108

AN 93182291. 93000.

AU Pilinskaia-M-A. Shemetun-A-M. Ereemeeva-M-N. Redko-D-V.

TI `The cytogenetic indication of irradiation in persons exposed to the
action of the factors in the *Chernobyl* accident:.

SO Tsitol-Genet. 1992 Nov-Dec. 26(6). P 6-9.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB 363 men who have been working under conditions of additional
irradiation in terms from few hours to some months were

cytogenetically examined to define individual irradiation. In 111 men with the known dose of irradiation (5-140 cGy), the results of cytogenetic evaluation indicated, as a rule, a less intensive irradiation than physical dosimetry. This could be caused by elimination of chromosome aberrations, individual sensitivity, peculiar irradiation situation, or in some cases by incorrect evaluation of dose. In 252 men with the unknown dose of irradiation a tentative level was determined as based on frequency of metaphases with chromosome type aberrations. According to the study the absorbed dose was below 25 cGy in 209 cases, 26-50 cGy in 39 cases, and reached 51-90 cGy in 4 cases. Author-abstract.

109

AN 93181847. 93000.

AU Dedenko-I-K. Zakharash-M-P. Sofienko-G-I. Mizernaia-S-D.
Ivanova-N-V. Bukanov-V-N. Vasileva-E-G. Kumshaev-S-B.
Ivasenko-N-I. Radchenko-L-V.

TI `The radionuclide content of the feces of people working in the area of the *Chernobyl* Atomic Electric Power Station in 1986-199):.

SO Ter-Ark. 1992. 64(12). P 55-8.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

110

AN 93180674. 93000.

AU Holowinsky-I-Z.

IN Rutgers Graduate School of Education, Rutgers University, New Brunswick, NJ 08903-5050.

TI *Chernobyl* nuclear catastrophe and the high risk potential for mental retardation.

SO Ment-Retard. 1993 Feb. 31(1). P 35-40.

JT MENTAL RETARDATION.

PT JOURNAL-ARTICLE (ART).

AB The nuclear explosion at *Chernobyl* nuclear reactor on April 26, 1986, continues to have wide political, social, and medical ramifications. Hot debris from the *Chernobyl* reactor covered an area of more than 5,000 square kilometers with nearly 20 million curies of radionuclides. Eleven regions with a population of nearly 17 million people, of whom 2.5 million were children below the age of 5 years, suffered some degree of radioactive contamination. These children are currently of elementary school age. One of the tragedies of the explosion is that thousands of these children are at high risk for mental retardation and learning disorders. Author-abstract.

111

AN 93175854. 93000.

AU Smith-M-L. Taylor-H-W. Sharma-H-D.

IN Department of Botany and Biotechnology Laboratory, University of British Columbia, Vancouver, Canada.

TI Comparison of the *post-Chernobyl* ¹³⁷Cs contamination of mushrooms

from eastern Europe, Sweden, and North America.

SO Appl-Environ-Microbiol. 1993 Jan. 59(1). P 134-9.

JT APPLIED AND ENVIRONMENTAL MICROBIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB A comparison was made of ¹³⁴Cs and ¹³⁷Cs contamination in fungi from eastern Europe and eastern North America. Mean activities of 25 Ukrainian, 6 Swedish, and 10 North American collections were 4,660, 9,750, and 205 Bq/kg (dry weight), respectively. Additional measurements were made on samples from the Moscow, southern Belarus, and Yugoslavia/Bulgaria regions. Activity values were found to vary by several orders of magnitude within all geographic areas, even for the same mushroom species. Significantly higher specific activities were observed in mycorrhizal species than in saprophytic and parasitic fungi. Unfortunately, many of the European mycorrhizal species considered as prized edibles contained unacceptably high levels of ¹³⁷Cs (> 1,000 Bq/kg dry weight) and should be used sparingly as food. By contrast, no mushrooms collected in Ontario or northern Michigan exceeded 1,000 Bq of ¹³⁷Cs per kg (dry weight). The excessive ¹³⁷Cs contamination was evident in mushrooms from areas that had substantial fallout from the 1986 accident in reactor 4 at the *Chernobyl* nuclear power station. However, observations suggest that about 20% of the ¹³⁷Cs in eastern Europe (Moscow area, Belarus, and Ukraine) is of *non-Chernobyl* origin. Author-abstract.

112

AN 93171787. 93000.

AU Guvenc-H. Uslu-M-A. Guvenc-M. Ozekici-U. Kocabay-K. Bektas-S.

IN Medical Faculty of Firat University, Elazig, Turkey.

TI Changing trend of neural tube defects in eastern Turkey.

SO J-Epidemiol-Community-Health. 1993 Feb. 47(1). P 40-1.

JT JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH.

PT JOURNAL-ARTICLE (ART).

AB STUDY OBJECTIVE--The aim was to study the relationship between birth prevalence of neural tube defect (including anencephaly) in Eastern Turkey before and after the *Chernobyl* disaster. DESIGN--This was a prospective study of time trends in live births and stillbirths over the years 1985-1990. Medical and sociodemographic data were recorded for the mothers. SETTING--Elazig, Eastern Turkey. SUBJECTS--There were 5240 live births and stillbirths during the study period, 24 of whom had neural tube defect and of these 20 had anencephaly. MAIN RESULTS--Of the 5240 newborns, 24 had a neural tube defect, giving a birth prevalence of 4.5 per 1000 total births. Of these, 20 were anencephalic (3.8 per 1000). In all, of the 2355 conceptions estimated to have occurred prior to the *Chernobyl* disaster in May 1986, the birth prevalences of total neural tube defect and anencephaly were the same (1.7 per 1000). This contrasts with the years following after *Chernobyl*, when the birth prevalence of total neural tube defect was 6.9 per 1000 (5.5 per 1000 for anencephaly). The differences were statistically significant ($p < 0.001$). These two increased rates reached a peak of 12.4 (for total neural tube

defects) and 8.9 (for anencephaly) in 1988. In 1989 the rate of total neural tube defects decreased to 10.0 and that of anencephaly to 8.6 per 1000. In 1990 the rate of total neural tube defects fell to 5.6 and that of anencephaly fell to 4.2. CONCLUSIONS--The changes in birth prevalence of neural tube defects might be due to the *Chernobyl* disaster. However, the increases observed occurred mainly in infants conceived well over a year after the *Chernobyl* disaster, suggesting that other factors may be responsible. Author-abstract.

113

AN 93162927. 93000.

AU Muller-H. Prohl-G.

IN GSF-Forschungszentrum fur Umwelt und Gesundheit, Institut fur Strahlenschutz, Neuherberg, Federal Republic of Germany.

TI ECOSYS-87: a dynamic model for assessing radiological consequences of nuclear accidents.

SO Health-Phys. 1993 Mar. 64(3). P 232-52.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The time-dependent radioecological simulation model ECOSYS-87 has been developed to assess the radiological consequences of short-term depositions of radionuclides. Internal exposure via inhalation and ingestion, as well as external exposure from the passing cloud and from radioactivity deposited on the ground, are included in the model. The site-specific parameter values of the model are representative of Southern German agricultural conditions; however, the model design facilitates adaption to other situations. The ingestion dose is calculated as a function of time considering 18 plant species, 11 animal food products, and 18 processed products. The ingestion and inhalation exposure is estimated for six age groups using age-dependent consumption and inhalation rates and age-dependent dose factors. Results demonstrate a pronounced influence regarding the time of year (season) of deposition on the ingestion dose and on the relative importance of the exposure pathways. Model results compare well with activities in foods measured after the *Chernobyl* accident. Author-abstract.

114

AN 93162552. 93000.

AU Cebulska-Wasilewska-A. Guminska-M.

IN Zakadu Biochemii Ogolnej Instytutu Biochemii Lekarskiej, Akademii Medycznej im. M. Kopernika, Krakowie.

TI `Mutagenicity of environmental air in Cracow monitored by the Tradescantia stamen hair system:.

SO Folia-Med-Cracov. 1991. 32(1-2). P 119-29.

JT FOLIA MEDICA CRACOVIENSIA.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).

AB Three times since 1983, groups of plants of Tradescantia clone 4430 have been exposed to ambient air on various sites of the Cracow area. The highest value of mutation frequency was noted in May 1986 after

the *Chernobyl* accident. A slightly lower level of mutation frequency but comparable in value was reached in 1983 in vicinity to a pharmaceutical factory in result of chemical mutagen emissions. In various periods of 1987 temporary differences between the levels of mutations were observed on various sites in Cracow. There was also noted a significant decrease in the mean mutation level in comparison with the levels observed in 1983 and 1986. Author-abstract. 16 Refs.

115

AN 93157541. 93000.
AU Iarilin-A-A. Beliakov-I-M. Nadezhina-I-M. Simonova-A-V.
TI `Individual immunological parameters in clean-up team members and patients with sequelae of acute radiation sickness 5 years after the effects of the *Chernobyl* accident:.
SO Radiobiologiya. 1992 Nov-Dec. 32(6). P 771-8.
JT RADIOBIOLOGIYA.
PT JOURNAL-ARTICLE (ART).
AB A study was made of deviations, beyond 1 sigma and 1.5 sigma of a mean value (M) of a donor group, in individual immunological parameters (for instance, the number of CD5+, CD2+, CD4+, CD8+, CD25+ and B-cells; alpha 1-thymosin concentration; and autoantibody titers to antigens of epithelial reticulum cell cytoplasm) in patients suffered acute radiation sickness (ARS) and liquidators of *Chernobyl* NPP accident. The radiation damage to the immune system was reliably detected in the affected subjects examined: they exhibited a decrease in the alpha 1-thymosin level below $M = -1.5$ sigma and in absolute B cellularity below $M = -1$ sigma; and increase in the number of CD25+ cells and in the level of serum autoantibodies to antigens of thymus epithelial reticulum cell cytoplasm. When several parameters selected were examined simultaneously the frequency of recording the deviations in merely one of them markedly increased. Author-abstract.

116

AN 93156449. 93000.
AU Epstein-P-R. Clapp-R-W.
IN Cambridge Hospital, Harvard Medical School, Boston, MA.
TI Soviet nuclear mishaps *pre-Chernobyl*.
SO Lancet. 1993 Feb 6. 341(8841). P 346.
JT LANCET.
PT JOURNAL-ARTICLE (ART).

117

AN 93147626. 93000.
AU Randall-K. Coggle-J-E.
IN Department of Radiation Biology, St Bartholomew's Medical College, London, UK.
TI The effect of whole-body gamma-irradiation on localized beta-irradiation-induced skin reactions in mice.

SO Int-J-Radiat-Biol. 1992 Dec. 62(6). P 729-33.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The combined effects of whole-body radiation and localized radiation trauma have received scant experimental attention. However, in the recent accidents at *Chernobyl* and Goiania skin damage from beta-contamination was combined with total-body radiation and in many cases the skin lesions which covered large surfaces of the body were severe and recovery was prolonged. This paper models the immunosuppressive effects of whole-body gamma-radiation in the sublethal to lethal range (1-11 Gy) on the skin reactions produced by 50 Gy of superficial beta-radiation. For gamma ray doses < 4 Gy no synergistic effects were detectable. For gamma-ray doses of 4, 6 and 8 Gy there was a 4-5-day prolongation in time-course of the skin reaction but no significant exacerbation of its severity. The overall time for the resolution of the skin reaction (45 days) was also unaffected by the relatively high whole-body doses. These rather surprising findings of minimal synergy between whole-body exposure and a localized severe beta burn to the skin are perhaps explained by the mismatch between the maximal immunosuppression at 2-10 days postirradiation and the timing of the skin damage at 10-25 days. Author-abstract.

118

AN 93143485. 93000.

AU Ivanov-A-E.

TI `Pathology of acute radiation sickness induced by relatively proportional combined radiation damage:.

SO Arkh-Patol. 1992. 54(11). P 10-5.

JT ARKHIV PATOLOGII.

PT JOURNAL-ARTICLE (ART).

AB Materials are presented on six cases of fatal acute radiation disease consequent to relatively proportional beta- and gamma-irradiation after accident in the nuclear submarine. The comparison is performed of this material with the data published on the radiation sequelae of the *Chernobyl* nuclear catastrophe. Author-abstract.

119

AN 93135552. 93000.

AU Mincov-N. Kyourktchieva-S. Christozova-I.

IN Clinique d'Urologie Infantine, Institut N.I. Pirogov, Sofia, Bulgarie.

TI `Epithelial tumors of the urinary tract in children:.

SO Ann-Urol (Paris). 1992. 26(5). P 313-7.

JT ANNALES D UROLOGIE.

PT JOURNAL-ARTICLE (ART).

AB Through 1987 the authors observed and treated ten children with malignant urothelial cancers of the urinary tract: three malignant papillary cancers, six cancers of the bladder and one papilloma of the pyeloureteral segment. All were transitional cell cancers. The

methods of diagnosis and treatment are described. The early results were good and the late results did not reveal any recurrence. All children are alive, except for one case with cancer of the bladder. Death in this case was due to lung cancer eighteen months after cystectomy. The authors analyse the aetiological factors involved in these tumours for the year 1987, taking into account the ecological-radioactive contamination of our country, after the accident of *Chernobyl* in 1986. Author-abstract.

120

AN 93118679. 93000.

AU Nedelcu-I.

IN Department of Dermatology, Central Military Hospital, Bucharest, Romania.

TI AIDS in Romania.

SO Am-J-Med-Sci. 1992 Sep. 304(3). P 188-91.

JT AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

PT JOURNAL-ARTICLE (ART).

AB Of the 1446 AIDS cases reported in Romania, 79% were in the pediatric age group. Of these children, 28% lived with their families, 30% were orphans, and 42% were abandoned. Among the AIDS-affected children, 32% were less than 1 year old and 67% were 1-4 years old. The natural history of AIDS in Romania was characterized by a high death rate from opportunistic infections. Chronic undernutrition imposed by the communist program of "rational feeding of the population," immunodepression induced by the radiation generated by the accident at *Chernobyl,* hard physical work in an environment intensely polluted by industrial waste, excessive use of injectable therapies and transfusions of HIV-untreated blood, lack of education of the medical staff and the population, and tourism have contributed to the AIDS epidemic in Romania. Kaposi's sarcoma was infrequent (7.7%) in AIDS patients. However, a significant number of European-type Kaposi's sarcoma cases with negative tests for the HIV infection were reported. Author-abstract.

121

AN 93118538. 93000.

AU Boldizsar-H. Szenci-O. Muray-T. Csenki-J.

IN Department of Physiology, University of Veterinary Science, Budapest, Hungary.

TI Studies on canine mammary tumours. I. Age, seasonal and breed distribution.

SO Acta-Vet-Hung. 1992. 40(1-2). P 75-87.

JT ACTA VETERINARIA HUNGARICA.

PT JOURNAL-ARTICLE (ART).

AB The incidence as well as age, seasonal and breed distribution of canine mammary tumours (n = 521) were studied at the Clinic of Obstetrics and Gynaecology of the University of Veterinary Science, Budapest, between 1985 and 1989. In 39 cases of mammary tumour, blood plasma oestradiol (E2) and progesterone (P) concentrations were

also determined. Of all dogs referred to the clinics of the University in 1985, 0.7% had mammary tumour. On the average, 104 +/- 9.3 cases of mammary tumour were recorded at the Clinic of Obstetrics per year. This number did not increase after the *Chernobyl* atomic reactor catastrophe of 1986. The age distribution of canine mammary tumour found in this study shows good agreement with earlier data of the literature: mammary tumour showed the highest incidence in 10 years old dogs. The incidence of mammary tumour kept increasing with age until the 14th year of life (as expressed in per cent of animals of identical age). The number of mammary tumours was markedly higher in the spring (April-May) and autumn (September). This seasonality was demonstrable in 11 to 16 years old bitches, too. On the basis of the blood plasma E2 and P profiles, 61.5% of the clinically anoestrous animals were found to be cycling. The strikingly high ratio of pulis among dogs with mammary cancer was suggestive of a breed disposition. Author-abstract.

122

AN 93118250. 93000.

AU Maltsev-V-I. Kolpakov-MIu. Iakobchuk-A-V. Golovko-V-A.

TI `The dispensary observation of patients with chronic nonspecific lung diseases who work in a dust-producing industry with a high radionuclide level as a consequence of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 Aug. (8). P 102-6.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Patients working at a small mining institution and suffering of chronic unspecific pulmonary diseases due to high dust and radionuclide contamination levels were examined. Four groups of dispensarization were singled out with the purpose of differential treatment for each group. Such treatment including also antiaggregant agents, nitro-drugs resulted in a good medico-social effect within 2 years. Author-abstract.

123

AN 93114622. 93000.

AU Kolomiets-O-L. Mazurova-T-F. Pomerantseva-M-D. Chekhovich-A-V. BOgdanov-IuF.

TI `Electron microscopic analysis of synaptonemal complexes of male laboratory mice exposed during the period of embryogenesis in the vicinity of the *Chernobyl* Nuclear Power Station:.

SO Genetika. 1992 Sep. 28(9). P 49-57.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Four male mice were shown to have decreased fertility among 74 laboratory male mice exposed in the *Chernobyl* APP area during embryogenesis. Electron microscopic analysis of synaptonemal complexes (SC) of at zygotene-diplotene and light-optic analysis of chromosome aberrations at diakinesis-metaphase 1 demonstrated the

presence of interchromosome translocations in autosomal chromosomes, and also intrachromosome translocations in two of four animals. The frequency of chromosome translocations in SC preparations was on the average 1.8 times higher than their frequency at the diakinesis-metaphase 1 stage. High percentage of cells in which associations of sex bivalent axes (XY) with the axes of autosomal bivalents were observed in the SC preparations and reduced fertility in the animals studied confirmed the Forejt's hypothesis that such associations caused the arrest of cells at pachytene and, as a consequence, disturbed the process of embryogenesis.
Author-abstract.

124

AN 93095826. 93000.

AU Scurti-D. LAbbate-N. Capozzi-D. Lofrumento-R. Crivellini-S. Ambrosi-L.

IN Istituto di Medicina del Lavoro, Universita degli Studi di Bari.

TI `Ocular hypertension in radiologists and radiology technicians:.

SO Med-Lav. 1992 Jul-Aug. 83(4). P 330-7.

JT MEDICINA DEL LAVORO.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART).

AB Ionizing radiations (IR) produce changes in the eye and, above all, in the lens. Several studies on radiotherapy in neoplastic diseases and dangerous nuclear accidents like *Chernobyl* have indicated the percentage and the exposure level at which the eye becomes the target organ of IR. The aim of the study was to establish the association between ocular tension and low-level IR exposure. The incidence of ocular hypertension in the general population is about 1-2% in persons aged 30-40 years and 10% in the 70-80 years age group; the frequency of glaucoma is 0.2-0.5% in persons aged 50-55 years and 2% in those aged 70 years and over; after 15 years of disease, conversion from ocular hypertension to glaucoma is observed in 40% of the cases. We examined 128 subjects occupationally exposed to IR (42 radiologists and 86 radiology technicians) and 130 non-exposed. For each subject we recorded age, length of employment, job titles, dosimetry, ocular tension, refraction and motility impairments. The data obtained from a complete ophthalmologic test was analyzed by the t-Student test, Chi-square and Pearson's test. The ocular tension of 33 occupationally exposed subjects and 2 non-occupationally exposed subjects was higher than the cut-off value of 18 mmHg. There was no analogy between age distribution of ocular hypertension in the groups under study and the general population. There seems to have been a relationship between ocular tension and job titles since a higher incidence was observed among the radiology technicians than among the radiologists and also in the 30-40 years age class.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

125

AN 93093969. 93000.

AU Hofmann-W. Attarpour-N. Lettner-H. Turk-R.

IN Abteilung fur Biophysik, Universitat Salzburg, Austria.
TI 137Cs concentrations in lichens before and after the *Chernobyl*
accident.
SO Health-Phys. 1993 Jan. 64(1). P 70-3.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB 137Cs activities were measured in a variety of epigeic and epiphytic
lichens in Austria before and after contamination by the *Chernobyl*
fallout. For comparison, the activity of the naturally occurring 40K
was also determined in each lichen sample. The high 137Cs activities
found after *Chernobyl* suggest that lichens are suitable and
inexpensive biological detectors of the fallout pattern.
Author-abstract.

126

AN 93088958. 93000.
AU Niagu-A-I. Noshchenko-A-G. Loganovskii-K-N.
TI `Late effects of psychogenic and radiation factors of the accident at
the *Chernobyl* nuclear power plant on the functional state of human
brain:.
SO Zh-Nevropatol-Psikhiatr-Im-S-S-Korsakova. 1992. 92(4). P 72-7.
JT ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA.
PT JOURNAL-ARTICLE (ART).
AB As many as 97 persons, victims to the *Chernobyl* accident, who
developed vegetative dystonia were examined by clinical,
++patho-psychological and electroencephalography methods. 24
patients with vegetative dystonia who had not taken part in the
liquidation of the consequences of the *Chernobyl* accident and not
lived in the zones of alienation and radioactive contamination were
examined too. In the victims to the *Chernobyl* accident,
vegetovascular dystonia was marked by certain clinical and
neurophysiological peculiarities in the form of combined vegetative
disturbances and hypochondriac symptoms, signs of the schiziform
organic syndrome with diffuse disorders of brain bioelectric activity
and irritation of the subcortical structures. The contribution of
psychogenic and prolonged ionizing radiation to the formation of
changes in brain function in victims to the *Chernobyl* accident is
under consideration. Author-abstract.

127

AN 93088761. 93000.
AU Kovalenko-A-N. Sushko-V-A. Fedirko-M-I.
TI `The hormonal functions regulating carbohydrate metabolism in
participants in the cleanup of the sequelae of the accident at the
Chernobyl Atomic Electric Power Station with a neurocirculatory
dystonia syndrome:.
SO Vrach-DeLo. 1992 Jun. (6). P 52-5.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).
AB Radioimmunoassay revealed in participants of *Chernobyl* disaster

sequelae preclinical changes of some hormonal functions: moderate increase of the basal concentration of blood insulin, somatotropin, C-peptide against the background of persistent hypercortisolemia. Increase of the level of "hyperglycemic" hormones (cortisol, somatotropin, C-peptide) is explained by adaptative and compensatory reactions of the body in response to lesioning effects of ionizing radiation and other negative factors of the *Chernobyl* accident. Relative hyperinsulinemia is, apparently, compensating the total hyperglycemic effect of these hormones leading to stabilization of the blood sugar level. Author-abstract.

128

AN 93088760. 93000.

AU Kapreenko-A-K. Loganovskii-K-N.

TI `Borderline neuropsychic disorders in persons subjected to ionizing radiation exposure:.

SO Vrach-Delo. 1992 Jun. (6). P 48-52.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Results were compared of a study of mental disorders in 365 participants of liquidation of sequelae of the *Chernobyl* atomic station disaster subjected to the effect of ionizing radiation showing psychic disorders, in 475 somatic patients and in 42 Afghan soldiers suffering of traumatic cerebroasthenia. Clinical aspects of manifestation of nervous and mental disorders and their effect on the dynamic structure of mental and somatic premorbid state, presence of somatic diseases, specific psychotrauma situation and organic effects of the ionizing radiation. Stages of development of these disorders were singled out and signs of their endogeneity and progression were established. The possibilities of psycho-social adaptation are discussed. Author-abstract.

129

AN 93086788. 93000.

AU Collins-D-L.

IN Armed Forces Radiobiology Research Institute, Bethesda, MD 20889.

TI Behavioral differences of irradiated persons associated with the Kyshtym, Chelyabinsk, and *Chernobyl* nuclear accidents.

SO Mil-Med. 1992 Oct. 157(10). P 548-52.

JT MILITARY MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB Three nuclear accidents besides *Chernobyl* have occurred in the former Soviet Union. The accidents occurred around Kyshtym and Chelyabinsk in the Ural Mountains between 1949 and 1967 and contaminated over one-half million people. The health ministries are now interested in the data previously collected on these irradiated populations in order to examine the health (e.g., psychological, hereditary, genome damage, etc.) implications of long-term radiation exposure. Author-abstract.

130

AN 93084089. 93000.

AU Furmanchuk-A-W. Averkin-J-I. Egloff-B. Ruchti-C. Abelin-T.
Schappi-W. Korotkevich-E-A.

IN Research Institute for Oncology and Medical Radiology, Lesnoj, Minsk,
Republic of Belarus.

TI Pathomorphological findings in thyroid cancers of children from the
Republic of Belarus: a study of 86 cases occurring between 1986
('post-Chernobyl') and 1991.

SO Histopathology. 1992 Nov. 21(5). P 401-8.

JT HISTOPATHOLOGY.

PT JOURNAL-ARTICLE (ART).

AB Recently, an impressive increase in malignant thyroid tumours has
been observed among children less than 15 years of age living in the
Republic of Belarus at the time of the nuclear accident of *Chernobyl*
in 1986. More than half of these patients lived in the region of
Gomel, nearest to *Chernobyl.* Because of the very short time interval
between the accident and the tumour occurrence an independent review
of the available histopathological material was done. Out of 101
cases diagnosed as thyroid cancers, we reviewed slides of 93 cases
and agreed the diagnosis of malignancy in 92.5%. Of these tumours
96.5% were papillary carcinomas, 61.5% were moderately or poorly
differentiated. Extrathyroidal extension was observed in 60.5%,
regional lymph node metastases in 74% and distant metastases in 7%.
One of the patients died from lung metastases. Our results confirm
that the neoplasms increasingly diagnosed between 1986 and 1991 among
children of this region are thyroid carcinomas. In addition, we
correlate several histopathological findings with sex and age of the
patients and other parameters, and compare the results with data from
other studies. Author-abstract.

131

AN 93083368. 93000.

AU Aleksakhin-R-M. Sarapultsev-I-A. Spirin-E-V. Udalov-D-B.

TI `Formation of the dose burdens on agricultural animals during the
accident at the *Chernobyl* AES and effect of their evacuation on the
dose absorbed:.

SO Dokl-Akad-Nauk. 1992. 323(3). P 576-9.

JT DOKLADY AKADEMII NAUK.

PT JOURNAL-ARTICLE (ART).

132

AN 93079984. 93000.

AU Sledzevskaia-I-K. Iliash-M-G. Viatchenko-E-V.

TI `The rehabilitative treatment of patients after a myocardial infarct
who reside in an area close to the *Chernobyl* Atomic Electric Power
Station:.

SO Vrach-Delo. 1992 Jul. (7). P 9-11.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Rehabilitation treatment is evaluated in 55 patients (long-term results) with a history of myocardial infarction residing in the *Chernobyl* atomic station zone. It was established that the course of the disease in persons who participated in liquidation of the *Chernobyl* disaster was characterized by a more frequent development of reinfarctions as compared with the Kiev population. Patients residing in the zone neighbouring the *Chernobyl* station developed more frequently cardiac failure. This requires detailed examination of these patients during their return to work. Author-abstract.

133

AN 93079958. 93000.

AU Artamonova-N-O. Busygina-N-A. Volkovaia-T-A. Kononenko-E-K. Gubskii-V-I.

TI `A scientific knowledge analysis of the problem of the biomedical sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 Jul. (7). P 18-23.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB The authors carried out a scientific-research analysis of publication on the problem of medico-biological sequels of the *Chernobyl* Atomic Station. Systematization of 282 native and 45 foreign publications are presented as information models emphasizing the main trends of research, especially changes in the nervous system as well as in related systems of the body. Further detailed studies of the *Chernobyl* disaster sequels are important. Author-abstract.

134

AN 93079956. 93000.

AU Kolpakov-MIu. Maltsev-V-I. Iakobchuk-V-A. Shatilo-V-I. Kolpakova-N-N.

TI `The characteristics of the course of acute pneumonia in patients subjected to prolonged exposure to low doses of ionizing radiation as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 Jul. (7). P 11-5.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Distinct changes in the clinical picture of acute pneumonia were noted in patients subjected to constant prolonged (1986-1990) effect of small doses of ionizing radiation as a result of residing in the contaminated territory after the *Chernobyl* atomic station disaster. These changes included increased duration of the disease, frequency of protracted forms, suppression of the immune system. At the same time a general decrease of the incidence of acute pneumonia, increase of the frequency of severe cases of concomitant pathology indicate some stimulating effect of small doses of ionizing radiation on the body with a healthy immune system and suppressing effect on inadequately functioning immune system. Changes of the

clinico-laboratory indices of the course of acute inflammatory process depended on the duration of residing in the contaminated locality and to a lesser degree of the dose. Author-abstract.

135

AN 93079909. 93000.

AU Kriukov-E-A.

TI `Ultrasonic study of the thyroid in the population living in areas contaminated by radioactive substances after the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Voen-Med-Zh. 1992 Sep. (9). P 12-3.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

136

AN 93079369. 93000.

AU Zainullin-V-G. Borodkin-P-A. Cherniak-S-I. Skaletskii-IuN.

Sevankaev-A-V. Shevchenko-V-A.

TI `Results of the cytogenetic examination of the people taking part in the clean-up of the accident at the *Chernobyl* AES:.

SO Radiobiologiya. 1992 Sep-Oct. 32(5). P 668-72.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB Chromosome preparations from peripheral blood cells of 117 subjects who took part in liquidation of *Chernobyl* NPP accident consequences in 1986 have been investigated. The number of chromosome aberrations has been shown to increase considerably. A short-term exposure has been found to be 5-7 times more effective than long-term one. Author-abstract.

137

AN 93079368. 93000.

AU Riabov-I-N.

TI `Evaluation of the effect of the radioactive contamination of hydrobionts in the 30-kilometer control zone of the accident at the *Chernobyl* AES:.

SO Radiobiologiya. 1992 Sep-Oct. 32(5). P 662-7.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of hydrobionts, particularly fishes, living within the thirty-kilometer control zone of *Chernobyl* NPP and northern part of the Kiev basin, after the disaster. Out of 31 fish species living in the NPP cooling pond some were identified which were mostly affected by radioactive contamination. They were predators belonging, with respect to reproduction and development, to a lithophilous group. Peculiarities of reproduction of *Hypophthalmichthys molitrix* kept in stews of the cooling pond before the accident were studied. After a three-year exposure to ionizing radiation (cumulative dose of 8-9 Gy) no reduction in the reproductive capacity of mature fishes was observed.

Author-abstract.

138

AN 93079367. 93000.

AU Kudriashov-IuB. Parkhomenko-I-M. Deev-L-I. Goncharenko-E-N.
Kossova-G-V. Tsudzevich-B-A. Baikhozhaeva-B-U.

TI `The possibility of using the preparation MIGI-K in districts exposed
to radioactive contamination following the accident at the *Chernobyl*
AES:.

SO Radiobiologiia. 1992 Sep-Oct. 32(5). P 654-61.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A preparation from mussels, MIGI-K, used as an additive to the diet
of people working at the *Chernobyl* power plant has proved to be
efficient in increasing the total resistance of the body, including
the resistance to ionizing radiation. In experiments with animals,
MIGI-K has been shown to accelerate excretion of ⁴⁵Ca and ⁸⁶Rb from
the body. The combination of these properties of MIGI-K permits us
to consider it an efficient drug to be used within the regions
affected by the *Chernobyl* disaster. Author-abstract.

139

AN 93079366. 93000.

AU Borisevich-V-B. Kudriavchenko-A-V. Sen-IaG. Iatsyshin-A-I.
Tkachenko-G-M. Borisevich-B-V.

TI `Radiologic and histologic study of trepanobiopates of the spongy
bones in cattle in regions suffering as a result of the accident at
the *Chernobyl* AES:.

SO Radiobiologiia. 1992 Sep-Oct. 32(5). P 647-53.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

140

AN 93079365. 93000.

AU Ladanova-N-V.

TI `The ultrastructural organization of spruce needles of different ages
exposed to radiation:.

SO Radiobiologiia. 1992 Sep-Oct. 32(5). P 640-6.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The ultrastructure of mesophyll cells of spruce needle of different
age within the region of *Chernobyl* catastrophe has been investigated.
The quantitative characteristics of chloroplasts are shown to be a
function of the absorbed dose rate. The effect of ionizing radiation
on the processes of needle tissue ageing is discussed.
Author-abstract.

141

AN 93079364. 93000.

AU Pilinskaia-M-A. Shemetun-A-M. Dybskii-S-S. Redko-D-V.

Eremeeva-M-N.

TI `The cytogenetic effect in peripheral blood lymphocytes as an indicator of the effect on man of factors of the *Chernobyl* accident:.

SO Radiobiologia. 1992 Sep-Oct. 32(5). P 632-9.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB The data obtained confirm the possibility of both individual and population cytogenetic indication of the effect of low intensity radiation, exceeding the background level, and exhibit a positive correlation with the radio-ecological situation formed. The cytogenetic effect, that indicates the disturbance of the genome stability, might be considered as an indicator of a high probability of occurrence of pathologies, with a genetic component, in the subpopulations under study, compared to spontaneous level.

Author-abstract.

142

AN 93075583. 93000.

AU Parkin-D-M. Cardis-E. Masuyer-E. Friedl-H-P. Hansluwka-H. Bobev-D. Ivanov-E. Sinnaeve-J. Augustin-J. Plesko-I. et al.

IN International Agency for Research on Cancer, Lyon, France.

TI Childhood leukaemia following the *Chernobyl* accident: the European Childhood Leukaemia-Lymphoma Incidence Study (ECLIS).

SO Eur-J-Cancer. 1992. 29A(1). P 87-95.

JT EUROPEAN JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

AB The objective of the European Childhood Leukaemia-Lymphoma Incidence Study (ECLIS) is to investigate trends in incidence rates of childhood leukaemia and lymphoma in Europe, in relation to the exposure to radiation which resulted from the accident at the *Chernobyl* nuclear power plant in April 1986. In this first report, the incidence of leukaemia in children aged 0-14 is presented from cancer registries in 20 European countries for the period 1980-1988. Risk of leukaemia in 1987-1988 (8-32 months post-accident) relative to that before 1986, is compared with estimated average dose of radiation received by the population in 30 geographic areas. The observed changes in incidence do not relate to exposure. The period of follow-up is so far rather brief, and the study is planned to continue for at least 10 years. Author-abstract.

143

AN 93075548. 93000.

AU Linet-M-S. Boice-J-D Jr.

IN Analytic Studies Section, National Cancer Institute, Bethesda, Maryland.

TI Radiation from *Chernobyl* and risk of childhood leukaemia.

SO Eur-J-Cancer. 1992. 29A(1). P 1-3.

JT EUROPEAN JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

144

AN 93070188. 93000.

AU Gorpinchenko-I-I.

TI `Sexual functions in men subjected to ionizing radiation exposure resulting from the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 May. (5). P 23-9.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB A study of 426 males who participated in liquidating the sequels of the *Chernobyl* atomic station disaster revealed specific changes of the sexual active and generative function. Data are reported on the main mechanisms of these disorders and treatment results are analyzed. Author-abstract.

145

AN 93070187. 93000.

AU Sakhno-T-A.

TI `The immune status of patients with neurocirculatory dystonia subjected to ionizing radiation exposure during the cleanup of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 May. (5). P 20-3.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB The immune state of 77 cleanup workers of *Chernobyl* power plant accident suffering from vegetative dystonia was studied. The group of comparison consisted of 10 vegetative dystonia patients, who were not subjected to the ionizing radiation influence. The workers showed no specific changes of immunity, but immune state disturbances among them were more frequent and more pronounced than in ordinary vegetative dystonia patients. Author-abstract.

146

AN 93070186. 93000.

AU Ponomarenko-V-M. Shatylo-V-I. Markevych-V-E. Nabukhotnyi-T-K.

TI `The function of the hypophyseal-thyroid system in the children of Zhitomir Province living in areas polluted by the radionuclides resulting from the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1992 May. (5). P 16-20.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB A study of 1167 children (age: 7-15 years) inhabiting districts contaminated with radionuclide due to *Chernobyl* atomic station accident indicates that children with thyroid hyperplasia revealed high requirement and intensity of the peripheral metabolism of thyroid hormones that results finally in relative hormonal deficit (subclinical hypothyroidism) and thyroid hyperplasia. This is a sequel of maximum functional tension of the thyroid with impending breakdown of adaptation and this should be considered as a

pathological process requiring correction, i.e. presence of subclinical hypothyroidism in children with thyroid hyperplasia requires substitution therapy with thyroid hormones.
Author-abstract.

147

AN 93070166. 93000.
AU Bebesheko-V-G. Klimenko-V-I. Iukhimuk-L-N. Pogontseva-I-M.
TI `The paramagnetic centers of the blood in persons with a history of acute radiation sickness as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.
SO Vrach-Delo. 1992 Apr. (4). P 7-10.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).

148

AN 93070102. 93000.
AU Shidlovskii-P-R.
TI `The dynamics of the general morbidity of the population of Belarus before and after the accident at the *Chernobyl* Atomic Electric Power Station (1985-1989):.
SO Vrach-Delo. 1992 Feb. (2). P 20-2.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).

149

AN 93069593. 93000.
AU Baryliak-I-R. Stempurskyi-IuM.
TI `The *Chernobyl* project (news):.
SO Tsitol-Genet. 1992 Jul-Aug. 26(4). P 75-81.
JT TSITOLOGIIA I GENETIKA.
PT MEETING-REPORT (MET). NEWS (NEW).

150

AN 93069592. 93000.
AU Pilinskaia-M-A.
TI `Urgent problems of elimination of medical aftereffects of the *Chernobyl* nuclear reactor accident (news):.
SO Tsitol-Genet. 1992 Jul-Aug. 26(4). P 73-5.
JT TSITOLOGIIA I GENETIKA.
PT NEWS (NEW).

151

AN 93069578. 93000.
AU Gavyliuk-IuI. Sozanskyi-O-O. Akopian-G-R. Lozynska-M-R. Siednieva-I-A. Glynka-P-A. Iaborivska-O-M. Grytsiuk-I-I.
TI `Genetic monitoring in connection with the *Chernobyl* accident:.
SO Tsitol-Genet. 1992 Jul-Aug. 26(4). P 15-9.
JT TSITOLOGIIA I GENETIKA.
PT JOURNAL-ARTICLE (ART).

AB The complex investigation has been provided to control the genetically influenced processes after *Chernobyl* accident in some Ukrainian regions. Some dangerous trends in genetic populational status were revealed in the Ukrainian regions surrounding *Chernobyl* power plant allowing for the increasing number of congenital anomalies among the newborns and the spontaneous abortions as well as higher proportion in aberrations of chromosome type in human somatic and embryos cells, higher incidence of structural defects in embryonal bone system and higher, compared with control, proportion of children with intensive catabolism (R-protein homeostasis).
Author-abstract.

152

AN 93068195. 93000.

AU Rowan-J-S. Walling-D-E.

IN Institute of Environmental and Biological Sciences, Lancaster University, UK.

TI The transport and fluvial redistribution of *Chernobyl-derived* radiocaesium within the River Wye basin, UK.

SO Sci-Total-Environ. 1992 Jun 30. 121. P 109-31.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Relatively little attention has been given to the long term prospect of fluvial transport processes redistributing *Chernobyl-derived* radiocaesium within the UK. Work undertaken within the Wye basin, central Wales, demonstrates a complex distribution of fallout at the catchment scale, with the bulk of the deposition concentrated in a narrow north-south band, situated in the west central areas of the basin, which contained in excess of 1500 Bq m⁽⁻²⁾ of (134)Cs. Fluvial transport and redistribution of this material was demonstrated by river sampling during the winter of 1988/89, when the radiocaesium content of suspended sediment transported by the River Wye (approximately 30-50 mBq g⁽⁻¹⁾ of (137)Cs) remained 3-5 times higher than *pre-Chernobyl* levels. Floodplain reaches displayed variable levels of secondary contamination, dependent upon the upstream supply of radiocaesium and local morphological controls. Accordingly, the highest (134)Cs inventories within the basin (> 6000 Bq m⁽⁻²⁾) were associated with rapidly accreting floodplain sites. A number of these sites experienced only limited amounts of direct atmospheric fallout. The importance of fluvial redistribution as a secondary contamination mechanism is thus highlighted.
Author-abstract.

153

AN 93059430. 93000.

AU Vanchieri-C.

TI *Chernobyl* has no early effect on childhood leukemia `news:.

SO J-Natl-Cancer-Inst. 1992 Nov 4. 84(21). P 1616.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT NEWS (NEW).

154

AN 93057879. 93000.
AU Rojas-Burke-J.
TI Scientists report surprise findings of thyroid cancer following
Chernobyl `news:.
SO J-Nucl-Med. 1992 Nov. 33(11). P 23N-24N, 33N-34N.
JT JOURNAL OF NUCLEAR MEDICINE.
PT NEWS (NEW).

155

AN 93051630. 93000.
AU Rakhmatullin-N-R. Karamova-L-M. Dumkina-G-Z. Girfanova-L-V.
TI `The results of clinico-hygienic research in the region of the Mozyr
industrial center following the accident at the *Chernobyl* Atomic
Electric Power Station:.
SO Gig-Tr-Prof-Zabol. 1992. (5). P 3-5.
JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA.
PT JOURNAL-ARTICLE (ART).
AB The dose of radioactive irradiation received by the workers of the
Mozyr industrial area after the *Chernobyl* power plant accident cannot
result in specific lesions, but a nonspecific effects of low
radiation doses, chemical substances of low intensity and other
occupational factors are possible. A possible radiation origin of
the astheno-depressive and astheno-somatic disorders developing by
nonspecific stress mechanisms is to be investigated.
Author-abstract.

156

AN 93051590. 93000.
AU Kovaleva-L-I. Liubchenko-P-N. Basakova-T-V.
TI `The central hemodynamics of participants in the cleanup of the
sequelae of the accident at the *Chernobyl* Atomic Electric Power
Station 4 years after the accident:.
SO Gig-Tr-Prof-Zabol. 1992. (3). P 15-7.
JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA.
PT JOURNAL-ARTICLE (ART).
AB Investigations of the central haemodynamics and myocardial
contractility in 73 men, who took part in repairing after the
Chernobyl accident in 1986, in 4 years after the accident have shown
the hyperkinetic type of circulation in 60.2%, eukinetic in 23.2%,
hypokinetic in 15.6% of the examinees. Such changes of the central
haemodynamics, increased frequency of the hyperkinetic type are due
to the regulatory disorders decreasing the vascular tone in the major
and minor circles, amplifying the venous return to heart and
increasing the myocardial contractility. Author-abstract.

157

AN 93035533. 93000.
AU Haeusler-M-C. Berghold-A. Schoell-W. Hofer-P. Schaffer-M.

IN Department of Obstetrics and Gynecology, Karl-Franzens University, Graz, Austria.

TI The influence of the *post-Chernobyl* fallout on birth defects and abortion rates in Austria.

SO Am-J-Obstet-Gynecol. 1992 Oct. 167(4 Pt 1). P 1025-31.

JT AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.

PT JOURNAL-ARTICLE (ART).

AB OBJECTIVES: We analyzed the influence of the radioactive fallout after the *Chernobyl* disaster on the rate and regional distribution of birth defects and abortion rates in southern Austria. STUDY DESIGN: During 1985 to 1989 a total of 66,743 births was monitored. Twelve sources provided data on 1695 cases of birth defects, 1579 of which were suitable for analysis. All cases were analyzed in terms of their calculated conception date and divided into three main groups according to their vulnerable phase of embryogenesis, spermatogenesis, and oogenesis. To study possible regional changes, the findings were plotted in 17 political subdistricts. The overall abortion rate and the counseling frequency at termination clinics was determined. RESULTS: No significant changes in the incidence of birth defects, abortion rate, or counseling rate at pregnancy termination clinics were observed. CONCLUSIONS: Assessing the teratologic potential of low-dose radiation is difficult and requires adequate grouping of birth defects, sufficient baseline data, and highly reliable registries. Author-abstract.

158

AN 93035253. 93000.

AU Lie-R-T. Irgens-L-M. Skjaerven-R. Reitan-J-B. Strand-P. Strand-T.

IN Medical Birth Registry of Norway, University of Bergen, Norway.

TI Birth defects in Norway by levels of external and food-based exposure to radiation from *Chernobyl*.

SO Am-J-Epidemiol. 1992 Aug 15. 136(4). P 377-88.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB In Norway, external doses of radiation resulting from fallout from the *Chernobyl* nuclear accident were estimated from detailed measurements, including soil deposition patterns. Internal doses were estimated from measurements of radioactive cesium in meat and milk supplies. The doses were calculated as average monthly doses for each of 454 municipalities during 36 consecutive months after the accident in spring 1986. Prospectively collected data on all newborns listed in the Medical Birth Registry of Norway who were conceived in the period May 1983-April 1989 were used to assess possible dose-response relations between estimated external and food-based exposures and congenital malformations and some other conditions. A positive association was observed between total radiation dose (external plus food-based) and hydrocephaly, while a negative association was observed for Down's syndrome. However, an important conclusion of the study was that no associations were found

for conditions previously reported to be associated with radiation, i.e., small head circumference, congenital cataracts, anencephaly, spina bifida, and low birth weight. Potential sources of bias, including exposure misclassification and incomplete ascertainment of cases, are discussed. Author-abstract.

159

AN 93033869. 93000.

AU Bidnenko-S-I. Nazarchuk-L-V. Fedorovskaia-E-A. Liutko-O-B. Openko-L-B.

TI `The antibacterial immunity of people under dynamic observation in an altered radiation situation:.

SO Zh-Mikrobiol-Epidemiol-Immunobiol. 1992 Jan. (1). P 33-6.

JT ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII.

PT JOURNAL-ARTICLE (ART).

AB The comparative study of the isolation rate, level, antigenic and class specificity of serum antibodies to the causative agents of purulent septic infections (*Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Proteus mirabilis*) and acute enteric infections in healthy adults with different ABO blood groups before (836 persons) and after (1,429 persons) the catastrophe at the *Chernobyl* nuclear power station was made. The study revealed the fact that the genesis of antibodies directed against different microorganisms can be stimulated without additional antigenic challenge in the form of disease or immunization, which was definitely indicative of the influence of small radiation doses in Kiev on the humoral immunity of the population. The multifactor character of the dependence of antibacterial antibody formation under altered radiation conditions on the specific features of the infective agent and the intensity of its circulation among the population, individual immune responsiveness of the body and concrete radiation conditions was established. Author-abstract.

160

AN 93030691. 93000.

AU Schimmack-W. Bunzl-K.

IN GSF-Forschungszentrum fur Umwelt und Gesundheit, Neuherberg, FRG.

TI Migration of radiocesium in two forest soils as obtained from field and column investigations.

SO Sci-Total-Environ. 1992 May 1. 116(1-2). P 93-107.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Depth profiles of radiocesium were measured in a podsollic parabrown earth of a spruce stand and in a podsol of a pine stand up to 3 years after the *Chernobyl* accident. At the same sites undisturbed soil columns of 20 cm diameter and 40 cm length were taken, transferred to the laboratory and irrigated intermittently with synthetic rainwater containing initially a known amount of radiocesium. The resulting migration of radiocesium in the columns under unsaturated conditions was determined as a function of time up to 3 years with a scanner

technique. The depth profiles of radiocesium observed in the field and in the columns were evaluated with a compartment model to obtain the residence half-times of this radionuclide in the various soil horizons. The field observations yielded a residence half-time in the organic layer of both soils of approximately 4-6 years for *Chernobyl-derived* cesium, and of 10-15 years for cesium from the global fallout of weapons testing. In the mineral soil (0-5 cm), under spruce the residence time of *Chernobyl-derived* cesium was 15 years, that of cesium from the global fallout (present in the soil since approximately 30 years) was 50 years. Under pine, the residence time in the mineral soil was 4 years for *Chernobyl-derived* cesium and 11 years for global fallout cesium. Obviously, in each layer of both soils cesium becomes less available for migration with time. The residence times of radiocesium evaluated from the column experiments were in good agreement with those obtained from the field observations. Due to the comparatively short duration of the column experiments, however, the long-term increase of the residence time of radiocesium in the soil was not yet unambiguously observable.
Author-abstract.

161

AN 93029250. 93000.

AU Izmozherova-E-L. Izmozherov-N-A. Bachinskaia-T-L. Impolitova-S-M. Aristova-V-A. Goncharenko-E-N. Gorskaia-T-G. Graevskaia-E-E. Deev-L-I. Kudriashov-IuB.

TI `Radiation reactions and the possibilities for their modification in rats exposed in the area of the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologiia. 1992 Jul-Aug. 32(4). P 493-9.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of some embryological, hematological, cytogenetic and biochemical characteristics in Wistar rats exposed within the *Chernobyl* NPP zone over a period of 30 days (the average radiation background level, 75, and at the soil surface, 115 mR/h; a cumulative dose, 57 rad/30 days, and for pregnant rats, 36 rad/20 days). The quantity of chromosome aberrations in bone marrow metaphases and the embryonal death rate were invariable; some cases of teratogenesis were, however, observed. The total number of karyocytes in the brain and the leukocyte content in the peripheral blood sometimes decreased. The changes in certain characteristics (such as the content of endogenous amines and thiols in the liver and spleen) of the endogenous radioresistance background (ERB) and the normalization of the ERB by the radioprotective agent MIGI-K were found.
Author-abstract.

162

AN 93029249. 93000.

AU Konoplia-E-F. Filchenkov-G-N. Popov-E-G. Leonova-L-L. Lavnichuk-O-N.

TI `The effect of iodine-131 on the binding characteristics of sex and thyroid hormones by blood plasma proteins in children with a functional thyroid disorder as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologiia. 1992 Jul-Aug. 32(4). P 488-92.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB In studying characteristics of specific interaction of estradiol-, testosterone- and thyroid-binding blood globulins with the corresponding ligands in children from Gomel Province with endemic swelling of the thyroid gland (degrees I and II) affected by iodine-131 revealed were a reduced cooperativity in estradiol and T-3 binding and a halved affinity to androgens and thyroids as compared to healthy controls. In addition, there was a drastic decline in the binding capacity of estradiol- and testosterone-binding globulins in the blood plasma. The endemic thyroid gland swelling is supposed to be due to sexual malfunction in teenagers. Author-abstract.

163

AN 93029248. 93000.

AU Zaitsev-V-A. Balakleevskaia-V-G. Petrenko-S-V.

TI `The functional status of the hypophyseal-adrenal cortical adaptation system in children in Byelarus living under the action of low doses of radiation after the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologiia. 1992 Jul-Aug. 32(4). P 483-7.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The analysis of the status of sympatho-adrenal and hypophysis-adrenal medulla systems of adaptation in children living in territories contaminated by radionuclides was carried out. A decrease in the catecholamine level in children's urine and hyperactivity of the hormonal response of adrenal medulla to endogenous ACTH indicated the reduced ability of adaptation and decreased resistance of children's organisms to stress factors of the environment. Author-abstract.

164

AN 93024647. 93000.

AU Braselmann-H. Schmid-E. Bauchinger-M.

IN Institut fur Strahlenbiologie, GSF-Forschungszentrum fur Umwelt und Gesundheit, Neuherberg-Munich, Germany.

TI Chromosome analysis in a population living in an area of Germany with the highest fallout deposition from the *Chernobyl* accident.

SO Mutat-Res. 1992 Nov. 283(3). P 221-5.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Chromosome analyses were carried out in 1989 in peripheral lymphocytes of 30 persons from the region in southeast Bavaria (Berchtesgaden) that received the highest radiocesium deposition (> 42 kBq/m²) in Germany. These persons belonged to a group for whom

body burdens o reported elevated rates of chromosome aberrations. Pohl-Ruling et al. (1991) have, likewise, concluded that there of chromosome aberrations in the population of the nearby Salzburg region in 1987. In the study reported here we do not see any elevations compared to our large *pre-Chernobyl* control group. The difference between our findings and the report of earlier increases cannot be fully expof the known temporal decrease of the rate of dicentric

165

AN 93024573. 93000.

AU Cebulska-Wasilewska-A.

IN Radiobiology Department, Institute of Nuclear Physics, Cracow, Poland.

TI Tradescantia stamen-hair mutation bioassay on the mutagenicity of radioisotope-contaminated air following the *Chernobyl* nuclear accident and one year later.

SO Mutat-Res. 1992 Nov 1. 270(1). P 23-9.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB This paper presents results of the research on the mutagenic effect of ambient air in the Cracow area. Initial studies were conducted in May 1986, following the *Chernobyl* accident. Other studies were performed at various sites within the Cracow area in the Spring of 1987. Counts were made of stunted hairs and pink cells in the stamen hairs of Tradescantia clone 4430. Mutations scored from the 11th day after the beginning of exposure were used as a measure of the mutagenic effect. The mean mutation frequencies measured in 1986 and 1987 were 0.43 and 0.21 per 100 hairs respectively. The time-dependent development of mutation frequencies observed after the *Chernobyl* accident showed a correlation with the time-dependent development of total radioactivities measured in the air at that time. The results obtained in 1987 showed on average a significant decrease of ambient air mutagenicity. Still, the variation of mutation rates observed during the investigated period at different sites in the Cracow area was rather high (0.09-0.38 mut/100 hairs). Only the highest frequencies observed in the Spring of 1987 were comparable to the level detected after the *Chernobyl* accident. Author-abstract.

166

AN 93024000. 93000.

AU Sudenko-V-I. Nagornaia-S-S. Groma-L-I.

TI `The intestinal microflora of persons subjected to a radiation lesion:.

SO Mikrobiol-Zh. 1992 Jul-Aug. 54(4). P 16-20.

JT MIKROBIOLOGICHESKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB The content of large intestine has been studied in persons exposed to radiation injury in consequence of the accident at the *Chernobyl*

Atomic Power Plant. It is stated that bifidobacteria (10(7)-10(10) cells in 1 g of feces) prevailed (as in healthy people), Bifidobacterium indicum being a dominating species. Amount of lactic-acid bacteria in 1 g of defecations of examined patients was within the range of 10(6)-10(9) cells and in certain persons it reached 10(10) cells (primarily fecal Enterococci). A considerable amount of patients with acute radiation sickness of the 3d degree had in their intestine 10(9)/g of lactic-acid bacteria, Lactobacillus casei and L. plantarum prevailing there. The frequency of yeast isolation from defecations of patients constituted 83%, while the number of cells in 1 g of feces--from 10 to 10(4). Yeast of the Candida genus, mainly Candida parapsilosis, prevailed. The species composition of isolated microorganisms has no substantial differences from microocenosis of healthy people. The content of intestine of persons suffered from radiation is characterized only by greater amount of lactic-acid bacteria and enterococci as compared with healthy adults. Author-abstract.

167

AN 93023391. 93000.
AU Robinson-M.
TI Belarus: rebuilding communities after *Chernobyl* `news:.
SO Lancet. 1992 Oct 31. 340(8827). P 1089.
JT LANCET.
PT NEWS (NEW).

168

AN 93014983. 93000.
AU Voigt-G. Paretzke-H-G.
IN GSF-Institut fur Strahlenschutz, Neuherberg, FRG.
TI 137Cs uptake with cafeteria food after the *Chernobyl* accident.
SO Health-Phys. 1992 Nov. 63(5). P 574-5.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB After the *Chernobyl* accident, the activity concentrations of radiocesium were measured in both the meals served at the cafeteria of a research center and in the employees eating there. The time-dependent means of monthly 137Cs activities in meals and people show a similar distribution pattern with highest values between March and July 1987, i.e., only 1 y after the accident. In meals, the highest activities were found when the menu consisted of pork, milk, or milk products. The 50-y cumulative effective dose calculated from the whole-body measurements is 0.21 mSv for male and 0.15 mSv for female employees. Cafeteria food contributed only a small share to this exposure. Author-abstract.

169

AN 93014982. 93000.
AU Toivonen-H. Pollanen-R. Leppanen-A. Klemola-S. Lahtinen-J.
Servomaa-K. Savolainen-A-L. Valkama-I.

IN Finnish Centre for Radiation and Nuclear Safety, Helsinki.
 TI A nuclear incident at a power plant in Sosnovyy Bor, Russia.
 SO Health-Phys. 1992 Nov. 63(5). P 571-3.
 JT HEALTH PHYSICS.
 PT JOURNAL-ARTICLE (ART).
 AB Several radionuclides were identified in the surface air in Finland following a nuclear incident in Sosnovyy Bor on 24 March 1992. In addition to gases, the release contained small uranium fuel particles. The radionuclide concentrations were of the same order of magnitude as the concentrations detected in Northern Finland in 1987 after the nuclear explosion in Novaya Zemlya (1 mBq m⁻³) but five orders of magnitude smaller than the concentrations during the *Chernobyl* accident in 1986. The radiological consequences in Finland were insignificant. However, studies show that even a minor release, across the sea and more than 100 km away, can be detected and important information, including the time of the incident and the composition of the release and the burn-up of the damaged fuel, can be revealed by the most accurate radioactivity measurements.
 Author-abstract.

170

AN 93014414. 93000.
 AU Dwyer-T.
 IN IFCH/DCS, Universidade Estadual de Campinas, Sao Paulo, Brazil.
 TI The industrial safety professionals: a comparative analysis from World War I until the 1980s.
 SO Int-J-Health-Serv. 1992. 22(4). P 705-27.
 JT INTERNATIONAL JOURNAL OF HEALTH SERVICES.
 PT JOURNAL-ARTICLE (ART).
 AB The birth of industrial society produced demand for the services of professionals specialized in matters related to industrial safety. Three professions--safety engineering, industrial medicine, and ergonomics--are examined. These professions are observed to either submit to single sets of demands, to integrate contradictory demands, or to experience scission. Until the late 1960s their growth appears to have been relatively peaceful and uncontroversial. From this period onward, controversy breaks out over questions related to industrial safety, and professions and government administrations grow. Increasingly, the traditional approach of safety professionals is called into question, and they adopt new orientations. These changes are mapped through the examination of data drawn principally from the United States, France, Great Britain, and to a lesser extent Brazil. The traditional standards approach competes with cost-benefit analysis and with systemic safety for influence; in addition, an emergent approach that analyzes accident causes in terms of social relations of work is detected. From Bhopal to *Chernobyl*, new technologies subject civilian populations to risks of catastrophic accidents, and the action of safety professionals comes under the spotlight. The analysis constructed permits new understandings of the past and the future of these professions.

Author-abstract.

171

AN 93014325. 93000.
AU Blahak-F. Jenistova-T. Divisova-I.
IN Geophysical Institute, Czechoslovak Academy of Sciences, Prague.
TI Changes of intraocular pressure in patients with open-angle glaucoma in relation to the passage of atmospheric fronts and environmental contamination.
SO Int-J-Biometeorol. 1992 Aug. 36(3). P 125-9.
JT INTERNATIONAL JOURNAL OF BIOMETEOROLOGY.
PT JOURNAL-ARTICLE (ART).
AB Effects of atmospheric frontal passages on intraocular pressure (IOP) in patients with open-angle glaucoma are statistically investigated to show the meteorotropism of this disease. Changes in IOP caused by frontal passages are evident; the response is not identical in all the patients near the day of the passage of a warm front, while on the third day following the passage of the front a well pronounced drop in IOP occurs. Anomalous increases of IOP over several months' duration occurred in the years 1986-7. This finding is explained in relation to the hypothesis of environmental contamination in Central Europe by radioactive cesium nuclides due to the *Chernobyl* accident.
Author-abstract.

172

AN 93006412. 93000.
AU Kingman-S.
TI Thyroid cancer rises after *Chernobyl* `news:..
SO BMJ. 1992 Sep 12. 305(6854). P 601-2.
JT BMJ.
PT NEWS (NEW).

173

AN 93006011. 93000.
AU Scheer-J.
TI Neonatal mortality in Germany since the *Chernobyl* explosion `letter; comment:..
SO BMJ. 1992 Mar 28. 304(6830). P 843.
JT BMJ.
PT COMMENT (COM). LETTER (LET).

174

AN 93005879. 93000.
AU Verbovnikov-A-A. Ermalitskii-A-P. Zhakov-IuA. Zinovich-V-N. Knizhnikov-V-A. Petukhova-E-V.
TI `Dietary intake of Cs-137 and Sr-90 by the population of the Gomel region, Byelarus, 1986-1989:..
SO Vestn-Ross-Akad-Med-Nauk. 1992. (3). P 57-9.
JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.
PT JOURNAL-ARTICLE (ART).

AB The authors provide the results of measuring the content of radionuclides in foods in the first 4 years after the *Chernobyl* accident and the data on the diet of the population. Pollution of foods was demonstrated to decrease with time. The supply of ¹³⁷Cs to the body fell 3-fold from 1986 to 1989. The rejection of foods in the most polluted Vetkovsk and Narovlyansk regions made it possible to reduce 3-6-fold the mean daily supply of ¹³⁷Cs with the diet and up to 2-fold the supply of ⁹⁰Sr. Author-abstract.

175

AN 92406457. 92000.

AU Strand-P. Selnaes-T-D. Boe-E. Harbitz-O. Andersson-Sorlie-A.

IN National Institute of Radiation Hygiene, Osteras, Norway.

TI *Chernobyl* fallout: internal doses to the Norwegian population and the effect of dietary advice.

SO Health-Phys. 1992 Oct. 63(4). P 385-92.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Dietary studies and whole-body measurements were used to estimate the intake of radiocesium and the radiation dose received by different groups of people in Norway after the *Chernobyl* accident. Freshwater fish, milk, and reindeer meat were the major sources for radiocesium intake. Dietary advice, together with agricultural decontamination measures, resulted in a considerable reduction in the exposure level of the population. A majority (40-80%) of the specially selected groups (farmers-hunters and Sami reindeer herdsman) changed its diet significantly after the accident. Without dietary changes, specifically a reduction in the consumption of freshwater fish and reindeer meat, the Sami group would have had a 400-700% higher radiocesium intake, and the farmers-hunters' intake would have been up to 50% higher than what they actually had experienced. Author-abstract.

176

AN 92399680. 92000.

AU Hemsworth-B-N.

IN Department of Biological Sciences, University of Durham, England.

TI An increased incidence of tumour bearing Swiss albino mice in Durham after the *Chernobyl* nuclear accident.

SO In-Vivo. 1992 Mar-Apr. 6(2). P 237-8.

JT IN VIVO.

PT JOURNAL-ARTICLE (ART).

AB Mice which were alive in Durham at the time of the *Chernobyl* nuclear accident presented a highly significant increase in the incidence of those which bore tumours. The comparison is based upon mice which were studied over the previous 4 years. In males and females the increase amounted to 19 and 100 per cent respectively. The most frequent neoplasms to increase were malignant tumours of the reticuloendothelial system and of the reticuloses, lymphosarcoma and reticulum cell sarcoma were prevalent in mice kept after *Chernobyl*.*

The incidence of reticuloses increased by 24 and 18 per cent in males and females respectively. Author-abstract.

177

AN 92396205. 92000.
AU Baverstock-K. Egloff-B. Pinchera-A. Ruchti-C. Williams-D.
TI Thyroid cancer after *Chernobyl* `letter:.
SO Nature. 1992 Sep 3. 359(6390). P 21-2.
JT NATURE.
PT LETTER (LET).

178

AN 92396204. 92000.
AU Kazakov-V-S. Demidchik-E-P. Astakhova-L-N.
TI Thyroid cancer after *Chernobyl* `letter: `see comments:.
SO Nature. 1992 Sep 3. 359(6390). P 21.
JT NATURE.
PT LETTER (LET).

179

AN 92387947. 92000.
AU Matsuoka-N. Okamura-M. Hirai-E. Takashima-Y.
IN Kyushu Environmental Evaluation Association, Fukuoka, Japan.
TI Study on the environmental behavior of *Chernobyl-derived* radionuclides in Kyushu Island, Japan.
SO Int-J-Rad-Appl-Instrum `A:. 1992 May. 43(5). P 651-7.
JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART A, APPLIED RADIATION AND ISOTOPES.
PT JOURNAL-ARTICLE (ART).
AB The environmental behavior of *Chernobyl-derived* radionuclides in Kyushu Island was investigated for one month after the accident. The radioactivity level in airborne dusts was two orders of magnitude lower than that observed in Western Europe. The distribution of ¹³¹I in airborne dusts shifted to a larger particle size compared with other radionuclides. The radionuclide concentration in seaweeds varied depending on the geographical situation where the sampling was done. The biological half-lives in red algae were calculated to be 17.4 d and 32.9 d for ¹³¹I and ¹⁰³Ru, respectively. The concentration factors in red algae were estimated to be $3 \times 10(3)$ and $5 \times 10(3)$ for ¹³¹I and ¹⁰³Ru, respectively. The cooking effect of ¹³¹I in seaweeds and the committed effective dose equivalent through ingestion of seaweed were also evaluated. Author-abstract.

180

AN 92376731. 92000.
AU Liubchenko-P-N. Dubinina-E-B. Petrakov-A-V. Bendikov-E-A.
TI `The function of the small intestine based on hydrogen test data in men who have been exposed to small doses of ionizing radiation in the cleanup of the sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Ter-Ark. 1992. 64(2). P 74-7.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

AB Sixty-seven participants of the elimination of *Chernobyl* accident sequels were examined. Of these, 30 persons (44.8%) showed normal characteristics of the three small intestinal functions studied: activity of the intestinal enzyme beta-galactosidase, motility and microbial dissemination, 23 (34.3%) deficiency of the intestinal enzyme beta-galactosidase, and 24 (35.8%) bacterial dissemination of the small intestine. In 12 persons (17.9%), the deficiency of beta-galactosidase was associated with dysbiosis of the small intestine. The incidence of hypolactasia did not exceed the characteristic typical on the whole of the population of the Moscow region. Author-abstract.

181

AN 92374463. 92000.

AU Guskova-A-K.

TI `Current problems of clinical radiation medicine (editorial):.

SO Klin-Med (Mosk). 1992 Feb. 70(2). P 3-7.

JT KLINICHESKAIA MEDITSINA.

PT EDITORIAL (EDI).

AB Results, prospects of studying the effects of ionizing radiation on human beings are considered with regard to the outcomes of the *Chernobyl* catastrophe and the results of a 5-year implementation of the All-Union Programme C-27. Present-day problems and approaches to investigation for the nearest 5-year period are formulated. Author-abstract.

182

AN 92373975. 92000.

AU Kuramoto-A.

TI `Report of IAEA International *Chernobyl* Project 1990-1991:.

SO Rinsho-Ketsueki. 1992 Jul. 33(7). P 950-7.

JT RINSHO KETSUEKI. JAPANESE JOURNAL OF CLINICAL HEMATOLOGY.

PT JOURNAL-ARTICLE (ART).

183

AN 92367906. 92000.

AU Konoplev-A-V. Bulgakov-A-A. Popov-V-E. Bobovnikova-TsI.

IN Institute of Experimental Meteorology, Obninsk Kaluga reg., Russia.

TI Behaviour of long-lived *Chernobyl* radionuclides in a soil-water system.

SO Analyst. 1992 Jun. 117(6). P 1041-7.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Field and laboratory experiments have been used to study the behaviour of long-lived radionuclides in the zone affected by the *Chernobyl* accident. Speciation of ⁹⁰Sr and ¹³⁷Cs in soils and bottom sediments was determined. The principal distinction of the *Chernobyl*

fallout was that it contained a relatively small proportion of exchangeable forms because a considerable fraction of the radionuclides was incorporated as part of the insoluble fuel particles. Disintegration of fuel particles in soils and bottom sediments results in transition of non-exchangeable forms into exchangeable forms. Radionuclide species have different pathways and rates of migration in soils and bottom sediments. Migration of each chemical form was described by a convective-dispersive equation taking into account transformation processes of radionuclide species in soils or bottom sediments. Adsorption of ^{90}Sr and ^{137}Cs in the environment is controlled by the cation-exchange capacity and the selectivity of the solid phase (i.e., soil, bottom sediments and suspended matter) and the cationic composition of the liquid phase (i.e., soil solution, surface run-off and river or lake water). The corresponding parameters for the processes were obtained.
Author-abstract.

184

AN 92357904. 92000.

AU Frantsevich-L-I. Sabinevskii-B-V. Komissar-A-D. Ermakov-A-A.
Kryzhanovskii-V-I. Mikitiuk-IuA. Arkhipchuk-V-A. Panov-G-M.
Kolesnik-A-D. Filimonov-I-S.

TI `Radionuclide transfer by migratory birds:.

SO Radiobiologiya. 1992 May-Jun. 32(3). P 357-63.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB Evaluation of the zoogenic transfer of radionuclides from the 30-km zone around the *Chernobyl* NPP was necessary because of the enormous heavily polluted territory and mighty flow of migratory birds who tended to large rivers, the Dnieper and Pripjat. The integral estimate of the transferred amount was obtained as a product of three variables: the transfer factor ($0.0077 \text{ m}^2/\text{kg}$ for ^{137}Cs ; $0.0107 \text{ m}^2/\text{kg}$ for ^{90}Sr), the density of birds ($0.002 \text{ kg}/\text{m}^2$, at the mass of migrants about 5000 t per year), and the total fund of radionuclides throughout the territory. The upper estimated limit of the annual transfer rate was 5.5 Ci ($2\text{E} + 11 \text{ Bq}$) for ^{137}Cs and 1.8 Ci ($6.7\text{E} + 10 \text{ Bq}$) for ^{90}Sr . Restrictions of hunting are recommended within the northern part of the Kiev reservoir. Author-abstract.

185

AN 92357903. 92000.

AU Beliakov-I-M. Iarilin-A-A. Nadezhina-N-M. Korotkova-N-V.
Kosheeva-I-V. Simonova-A-V.

TI `Several indices of the peripheral immune system in clean up team workers and patients who survived acute radiation disease 5 years after effects of the radiation accident factors:.

SO Radiobiologiya. 1992 May-Jun. 32(3). P 349-56.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB A group of liquidators and patients survived acute radiation sickness

(ARS) was studied five years after the effect of radiation factors resulted from the *Chernobyl* A.P.S. disaster. Studied were the number of T-lymphocytes (SD2+, SD3+, SD5+), subpopulations SD16+ and SD25+, the content of SD16+ and SD25+ lymphocytes and B-cells, as well as the levels of serum IgM, A, G; determined was the concentration of serum alpha 1-thymosin. A decrease was noted in the number of T-cells of the examined patients, with respect to all markers studied: the number of SD4+ cells was found decreased in patients with ARS sequelae and normal in liquidators. The decrease in serum alpha 1-thymosin was a function of dose. Dynamics of changes in the T-cells of the examinees may reflect the new trends in the radiation response of T-lymphocytes which were not directly related to initial damages to the latter. The injury to the stroma of the thymus and especially to its epithelial cells may be the basis for later postirradiation damages to the immune system. The decrease in the concentration of alpha 1-thymosin in the blood serum of the examinee is the manifestation of the thymus hypofunction. In liquidators and patients with the ARS sequelae the number of SD25+ cells increased markedly indicating the existence of the source of endogenous cell activation. The content of B-lymphocytes in all studied groups of patients was reduced which may serve as a criterion of chronic stress. Author-abstract.

186

AN 92357902. 92000.

AU Beliaikov-I-M. Iarilin-A-A. Kuzmenok-O-I. Gnezditskaia-E-V. Beletskaiia-L-V.

TI `Determination of autoantibodies to antigens of thymic epithelial cells of clean up team workers and patients who survived acute radiation sickness at distant periods after irradiation:.

SO Radiobiologiia. 1992 May-Jun. 32(3). P 341-8.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A group of patients, suffering from sequelae of acute radiation sickness (ARS), and liquidators was studied 5 years after exposure to a complex of factors resulting from the *Chernobyl* A.P.S. disaster. Studied were: the antibody titres to antigens of the cytoplasm of thymus epithelial reticulum cells and to Hassall's corpuscles the levels of serum immunoglobulins M, G, A; and the content of serum alpha 1-thymosin. Patients with ARS sequelae and liquidators showed a high level and incidence of autoantibodies to antigens of cytoplasm of thymus epithelial reticulum cells and to Hassall's corpuscles. There were no significant differences between the antibody levels in the blood of patients with ARS sequelae and liquidators. The antibodies were found to belong to IgM class; there was a correlation between the serum IgM titres and the rate of the indirect immunofluorescence reaction with autoantibodies to antigens of the cytoplasm of the thymus epithelial reticulum cells. To identify autoantibodies cryostat sections of human and mouse, (CBA x C57BL/6) F1, thymus as well as the epithelial and stromal cell culture of

mouse thymus can equally be used. Author-abstract.

187

AN 92357901. 92000.

AU Iakovlev-G-M. Shishmarev-IuN. Sergeev-S-T. Nikiforov-A-M.
Pronin-M-A.

TI `An attempt at a polythetic classification of a group of clean up
team workers after the *Chernobyl* AES accident:.

SO Radiobiologiya. 1992 May-Jun. 32(3). P 333-40.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB Using the complex statistics methods with due regard for the time
lapsed from the moment of exposure to ionizing radiation,
multifactors of the accident and the number of studies, the
manifestations of the radiation effect (within the dose range from
0.1 to 0.5 Gy) on certain functional systems in a group of *Chernobyl*
A.P.S. accident liquidators. Author-abstract.

188

AN 92357900. 92000.

AU Shishmarev-IuN. Alekseev-G-I. Nikiforov-A-M. Larchenko-G-K.
Krivoruchko-A-A. Pronin-M-A. Ivanov-I-A.

TI `Clinical aspects of the consequences of the *Chernobyl* AES accident:.

SO Radiobiologiya. 1992 May-Jun. 32(3). P 323-32.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

189

AN 92357753. 92000.

AU Neel-J-V. Awa-A-A. Kodama-Y. Nakano-M. Mabuchi-K.

IN Department of Human Genetics, University of Michigan, Ann Arbor
48109-0618.

TI "Rogue" lymphocytes among Ukrainians not exposed to radioactive
fall-out from the *Chernobyl* accident: the possible role of this
phenomenon in oncogenesis, teratogenesis, and mutagenesis.

SO Proc-Natl-Acad-Sci-U-S-A. 1992 Aug 1. 89(15). P 6973-7.

JT PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES
OF AMERICA.

PT JOURNAL-ARTICLE (ART).

AB Cultured lymphocytes exhibiting extreme cytogenetic damage (rogue
cells) were observed in preparations from 8 of 24 individuals sampled
in Krasilovka, a Ukrainian village receiving little or no increased
radiation after the *Chernobyl* disaster, but were not observed in an
additional 24 persons from two Russian towns in the more contaminated
area. This observation cements the worldwide occurrence of these
cells. The present data plus a review of the literature establish
that rogue cells appear in brief bursts simultaneously in certain
individuals of discrete populations. We suggest that the pattern is
consistent with the action of a viral trigger that acts directly or
indirectly--the latter possibly through the activation of latent

chromosomal retroposons. If this phenomenon occurs in other tissues, it may have important implications for oncogenesis, teratogenesis, mutagenesis, and evolution. Author-abstract.

190

AN 92355266. 92000.

AU Konshin-O-V.

IN Nuclear Physics Department, Byelorussian State University, Minsk.

TI Transfer of ¹³⁷Cs from soil to grass--analysis of possible sources of uncertainty.

SO Health-Phys. 1992 Sep. 63(3). P 307-15.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB On the basis of experimental data on the fallout of ¹³⁷Cs from the *Chernobyl* accident, a statistical analysis was made of possible values of the coefficients of transfer via the soil-grass pathway. Model calculations of the possible radionuclide concentration in milk are performed by the Monte Carlo method using the probability distribution function obtained. It is shown that not only our limited knowledge and the possible diversity of the external conditions, but also the very nature of the phenomenon under consideration, make it desirable to switch from a deterministic to a stochastic formulation of the model. The fact that the dependence of the soil-to-grass radionuclide transfer coefficients on the initial concentration in soil might be non-linear in character is an indication of the limitation of the conventional linear model. Author-abstract.

191

AN 92355265. 92000.

AU Konshin-O-V.

IN Nuclear Physics Department, Byelorussian State University, Minsk, USSR.

TI Mathematical model of ¹³⁷Cs migration in soil: analysis of observations following the *Chernobyl* accident.

SO Health-Phys. 1992 Sep. 63(3). P 301-6.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The applicability of traditional mathematical models is studied on the basis of 3 y of observation of the vertical migration of ¹³⁷Cs fallout after the *Chernobyl* accident. The most accurate description of the dependence of the radionuclide concentration on the depth of the soil layer is given by a lognormal distribution. The parameters of this distribution are determined and shown to be a solution to the Fokker-Planck equation, a special case of which is the diffusion-convection transport equation. Author-abstract.

192

AN 92350189. 92000.

AU Harjulehto-Mervaala-T. Salonen-R. Aro-T. Saxen-L.

IN Department of Pathology, University of Helsinki, Finland.

TI The accident at *Chernobyl* and trisomy 21 in Finland.

SO Mutat-Res. 1992 Mar. 275(2). P 81-6.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Our objective was to explore whether the radiation fallout in Finland after the accident at the *Chernobyl* nuclear power plant in April 1986 led to an increased incidence of trisomy 21. In this geographic and temporal cohort study, the country was divided into three zones according to the amounts of radioactive fallout and internal radiation caused by two cesium isotopes. The 518 cytologically verified cases of trisomy 21 were divided into a control group (conceived before the accident), and a study group of children whose expected dates of birth were in the post-accident years 1987-1988, i.e., pregnancies commenced after May 1986. The cases were also divided into three subgroups according to the zones of radiation. There were no significant differences in prevalence of trisomy 21 between the control and study groups nor between the three zones in spite of the significant differences in the levels of radiation and in the body burden that prevailed throughout the study period. Power estimates showed that in the two zones of lower radiation, an increase of 0.5% in the prevalence would have been detected with a power of 0.85, and in the somewhat smaller zone of the highest radiation, with a power of 0.70. The study lends no further support to the view that the low radiation fallout in western Europe would have been causally associated with trisomy 21. Author-abstract.

193

AN 92335839. 92000.

AU Hotzl-H. Rosner-G. Winkler-R.

IN GSF, Forschungszentrum fur Umwelt und Gesundheit, Institut fur Strahlenschutz, Neuherberg, Federal Republic of Germany.

TI Sources of present *Chernobyl-derived* caesium concentrations in surface air and deposition samples.

SO Sci-Total-Environ. 1992 Jun 1. 119. P 231-42.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The sources of *Chernobyl-derived* caesium concentrations in air and deposition samples collected from mid-1986 to the end of 1990 at Munich-Neuherberg, Germany, were investigated. Local resuspension has been found to be the main source. By comparison with deposition data from other locations it is estimated that within a range from 20 Bq m⁻² to 60 kBq m⁻² of initially deposited ¹³⁷Cs activity approximately 2% is re-deposited by the process of local resuspension in Austria, Germany, Japan and the United Kingdom, while significantly higher total resuspension is to be expected for Denmark and Finland. Stratospheric contribution to the present concentrations is shown to be negligible. This is confirmed by cross correlation analysis between the time series of ¹³⁷Cs in air and precipitation before and after the *Chernobyl* accident and the

respective time series of cosmogenic ⁷Be, which is an indicator of stratospheric input. Seasonal variations of caesium concentrations with maxima in the winter months were observed. Author-abstract.

194

AN 92333729. 92000.

AU Mettler-F-A Jr. Williamson-M-R. Royal-H-D. Hurley-J-R. Khafagi-F. Sheppard-M-C. Beral-V. Reeves-G. Saenger-E-L. Yokoyama-N. et al.
IN School of Medicine, Department of Radiology, University of New Mexico, Albuquerque 87131-5336.

TI Thyroid nodules in the population living around *Chernobyl.*

SO JAMA. 1992 Aug 5. 268(5). P 616-9.

JT JAMA.

PT JOURNAL-ARTICLE (ART).

AB OBJECTIVE--To determine the baseline incidence, prevalence, and characteristics of thyroid nodules in the population living around the *Chernobyl* nuclear power plant and to compare the findings with unexposed populations. DESIGN--Prevalence study. Population samples from seven highly contaminated villages were compared with six nearby control villages of the same size and type. The data were obtained as part of the International *Chernobyl* Project conducted in 1990. SETTING--The study was conducted 4.5 years after the *Chernobyl* reactor accident that released large quantities of radionuclides, including radioiodine. PATIENTS OR OTHER PARTICIPANTS--Population samples of approximately 100 persons residing in both highly contaminated villages and control villages since the accident were compared. Individuals were selected on the basis of birth date as being 5, 10, 40, or 60 years old at the time of the study. All persons selected underwent a thyroid examination. INTERVENTIONS--None. MAIN OUTCOME MEASURES--Two main outcome measures were used, both for thyroid nodularity: clinical palpation and high-resolution ultrasonography. RESULTS--There was no significant difference in thyroid nodularity between the study groups. Nodules were palpated in 0.7% of children and 2.9% of adults. Discrete nodules were found by ultrasonography in 0.5% of children and 14.9% of adults. Multinodular goiter was found in 3% of adults. Nodules were more common in females. CONCLUSIONS--Four and a half years after the *Chernobyl* accident, the incidence, prevalence, and characteristics of thyroid nodules were the same in population samples from both highly contaminated and control settlements and similar to results reported for unexposed populations in other countries. Author-abstract.

195

AN 92332196. 92000.

AU Rybacek-K. Jacob-P. Meckbach-R.

IN GSF-Forschungszentrum für Umwelt und Gesundheit GmbH, Institut für Strahlenschutz, Neuherberg, Germany.

TI In-situ determination of deposited radionuclide activities: improved method using derived depth distributions from the measured photon

spectra.

SO Health-Phys. 1992 Jun. 62(6). P 519-28.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB When applying the standard method of in-situ gamma spectrometry to determine deposited radionuclide activities, an assumption is needed regarding the depth distribution of radionuclides in the ground. The method can be improved by assessing, from information contained in the spectrum, the attenuation of the radiation by the soil and vegetation. By comparing the count rates of the x ray and the gamma-ray lines of its daughter nuclide ^{137}mBa , the ^{137}Cs activity per area can be determined. The range of applicability of the method is discussed by means of an uncertainty analysis, and the method is applied to *post-Chernobyl* measurements. A comparison with the results of the standard method of in-situ spectrometry demonstrates the progress achieved by the proposed method. Nevertheless, the method still has some shortcomings for the peak analysis that could be improved by better detector resolution or better computer software. Author-abstract.

196

AN 92332195. 92000.

AU Strand-P. Selnaes-T-D. Reitan-J-B.

IN National Institute of Radiation Hygiene, Osteras, Norway.

TI Area and time distribution of external and internal doses from *Chernobyl* fallout: the lack of correlation in Norway.

SO Health-Phys. 1992 Jun. 62(6). P 512-8.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Population doses from external radiation and internal food-based radioactivity were calculated each month for each municipality for 3 y immediately following the *Chernobyl* contamination in Norway. The main polluted regions are sparsely populated but comprise important food production areas. The external dose data base was calculated based on fallout deposition and measurements in dwellings, whereas the totally independent internal dose data base was calculated on a large number of food measurements and knowledge of both the food distribution system and the countermeasures taken. The internal dose in the densely populated municipalities was comparably higher than expected from local deposition, despite the fact that countermeasures had some effect. Thus, the correlation between internal and external dose for individual municipalities is rather weak. This study shows that a traditional deposition/transfer factor approach may be inappropriate if used in countries with large variation in population density and agricultural ecosystems and in combination with effective countermeasures. Author-abstract.

197

AN 92327816. 92000.

AU Romanenko-A-E.

TI `Radiologic consequences and medico-biological problems 4 years after the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 7-14.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The data on the assessment of the radiobiological situation and the results of clinical and epidemiological studies into the population health status, exposed to radiation because of the *Chernobyl* NPP accident are summarized. Appropriate regularities in soil contamination with ¹³⁷Cs are ascertained. It has been shown that the disease incidence among the children's and adult population of the controlled areas is associated not only with improvement of the disease revealing but with the influence of the accident consequences. Author-abstract.

198

AN 92327815. 92000.

AU Avetisov-G-M.

TI `Priority tasks of the common program for the clean-up of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 59-63.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the problems pertaining to the implementation of the State Union-Republic program of urgent measures for 1990-1992 and Republican programs of the elimination of *Chernobyl* accident consequences. Among the basic priorities covered by the program, the author regards the problems of the living of the population at the polluted areas, criteria for accepting decisions as to the possibility of further living or settling out together with favourable and unfavourable consequences of such a measure as settling out. Emphasis is laid on some priorities of the optimal use of means allotted for implementing the programs of the elimination of *Chernobyl* accident consequences. Author-abstract.

199

AN 92327812. 92000.

AU Likhtarev-I-A. Shandala-N-K. Gulko-G-M. Shandala-A-M. Kairo-I-A. Los-I-P. Likhtareva-T-M. Goritskii-A-V. Chepurnoi-N-I.

TI `Dynamics of the radiation conditions and evaluation of the radiation dosage of the inhabitants of Kiev following the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 49-54.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The estimation of the effective dose equivalents of exposure to accidental and non-accidental sources was made on the basis of the studying of radiation situation variations in Kiev after the *Chernobyl* accident in 1986-1989. The total annual effective dose

equivalents to the Kiev population from all sources of exposure for 1986-1989 were 9.19, 7.29, 5.34 and 5.03 mSv, respectively. The necessity of radiation health measures aimed at limiting the intake of long-acting radionuclides of *Chernobyl* nature and reducing the exposure doses by optimizing the x-ray procedure and by regulating the natural radioactivity of building materials are under discussion. Author-abstract.

200

AN 92327807. 92000.

AU Bondarenko-O-A. Zelenskii-A-V. Repin-V-S.

TI `Means of improving and characteristics of the use of beta spectrometry of ⁹⁰Sr after the *Chernobyl* accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 30-3.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with a theoretical possibility of the use of ⁹⁰Sr beta-spectrometry in a mixture of radionuclides including ¹³⁷Cs, ¹³⁴Cs, ¹⁴⁴Ce and ¹⁰⁶Ru after the *Chernobyl* accident. Special attention is paid to the choosing of a detector and spectrum treatment techniques as factors determining the minimum detectable activity of the method. A brief description of the spectrometric system as well as of the software used is given. The comparison of the method with traditional radiochemical and gamma-spectrometric methods has shown that it is applicable to a wide range of activities and to different objects including those of biological origin. The sources of errors are considered in detail. Approaches to the development of the method are given. Author-abstract.

201

AN 92327806. 92000.

AU Osanov-D-P. Shaks-A-I.

TI `The levels of irradiation of superficial tissues in personnel engaged in the clean-up of the consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 26-30.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

202

AN 92327803. 92000.

AU Antonov-V-P. Petrichenko-A-A. Skidan-N-A.

TI `Organizational principles of medical and public health measures during a large-scale accident at an atomic power station based on the *Chernobyl* experience:.

SO Vestn-Akad-Med-Nauk-SSSR. 1992. (2). P 14-9.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The whole complex of organizational medical measures on the elimination of aftereffect of the large-scale radiation accident at

the NPP may consist of the three basic groups: 1) preventive, aimed at maximally lowering the population and its critical subpopulations exposure levels; 2) curative and diagnostic, which, in addition to the rendering of medical assistance, provide for implementation of the programs of long-term population health studies, and 3) sanitation and educational, aimed at preventing negative social and psychological processes that accompany radiation accidents.
Author-abstract.

203

AN 92327511. 92000.
AU Teodoru-V. Cucu-D.
IN Faculty of Horticultural Sciences and Bioengineering, Bucharest, Romania.
TI Changes in the iodine content of vegetables following the *Chernobyl* accident.
SO Endocrinologie. 1991. 29(3-4). P 175-9.
JT ENDOCRINOLOGIE.
PT JOURNAL-ARTICLE (ART).
AB In the early phenophases and at maturity the vegetables grown in the goitrogenic area have a lower iodine concentration than in non-goitrogenic areas. Within the same area, the amount of iodine is higher in young than in old vegetables and, in some species, it is higher in the young vegetables of the goitrogenic area than in the nature vegetables of the non-goitrogenic ones. Following the accident at the *Chernobyl* Nuclear Power Plant in April 1986, the iodine metabolism in plants was disorganized. Author-abstract.

204

AN 92303772. 92000.
AU Stepanets-O-V. Karpov-V-S. Komarevsky-V-M. Borisov-A-P. Farrahov-I-T. Soloveva-G-Y. Pilipets-L-A. Batrakov-G-F. Chudinovskyh-T-A.
IN V. I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Russian Academy of Sciences, Moscow.
TI Peculiarities of the distribution of man-made radionuclides in several European seas.
SO Analyst. 1992 Apr. 117(4). P 813-6.
JT ANALYST.
PT JOURNAL-ARTICLE (ART).
AB Results of a study on the distribution of the man-made radionuclides ¹³⁷Cs and ⁹⁰Sr in the surface waters of several European seas are presented. Based on an analysis of the ratio of these two radionuclides, an attempt was made to isolate the *'Chernobyl* water' and to estimate the contribution of *'Chernobyl* radioactivity' to the total radioactivity in the waters of the seas investigated.
Author-abstract.

205

AN 92302492. 92000.

AU Beno-M. Mikulecky-M. Hrabina-J.

IN Research Institute of Preventive and Clinical Medicine, Bratislava, CSFR.

TI Transfer factor of ^{131}I from the fallout to human thyroid dose equivalent after the *Chernobyl* accident.

SO Radiat-Environ-Biophys. 1992. 31(2). P 133-9.

JT RADIATION AND ENVIRONMENTAL BIOPHYSICS.

PT JOURNAL-ARTICLE (ART).

AB A similar pattern of variation with time in observed maxima of daily dose equivalent rates in human thyroids (TD - $\mu\text{Sv.d}^{-1}$) and of daily fallout radioactivities (FR - kBq.m^{-2}) has been found after the *Chernobyl* accident. An estimate of the time-lag between the maxima in TD lines and the preceding FR peaks was made of about seven days for adult and nine days for juveniles. Applying this time-lag it was possible to estimate transfer factors from the fallout to thyroid dose equivalent: the highest estimated values were 221 $\mu\text{Sv/kBq.m}^{-2}$ for adult and 641 $\mu\text{Sv/kBq.m}^{-2}$ for juvenile thyroids. These values differ from those published by UNSCEAR (United Nations 1988), which have been calculated for various regions of Czechoslovakia, from ingestion and inhalation intake estimates. A broad variation of transfer factor values could be expected to result from such transfer calculations using ingestion and inhalation estimates. The findings also support the concept of a need for prolonged iodine prophylaxis after emissions of radioiodine into the environment. Author-abstract.

206

AN 92301180. 92000.

AU Hall-P. Boice-J-D Jr. Berg-G. Bjelkengren-G. Ericsson-U-B. Hallquist-A. Lidberg-M. Lundell-G. Mattsson-A. Tennvall-J. et al.

IN Department of General Oncology, Karolinska Hospital, Stockholm, Sweden.

TI Leukaemia incidence after iodine-131 exposure `see comments:.

SO Lancet. 1992 Jul 4. 340(8810). P 1-4.

JT LANCET.

PT JOURNAL-ARTICLE (ART).

AB Leukaemia is one of the most prominent late effects of exposure to ionising radiation. We have studied the incidence of leukaemia among 46,988 Swedish patients exposed to iodine-131 (^{131}I) for diagnostic reasons or to treat hyperthyroidism or thyroid cancer. The observed number of leukaemias was compared with that expected based on incidence data from the general population. The mean absorbed dose to the bone marrow was estimated as 14 mGy (range 0.01-2.226). 195 leukaemias occurred more than 2 years after exposure, and the standardised incidence ratio (SIR) was 1.09 (95% confidence interval 0.94-1.25). Similar, but again not significantly, increased risks were seen for chronic lymphocytic leukaemia (CLL) (SIR = 1.08), a malignant condition not found to be increased after irradiation, and for non-CLL (SIR = 1.09). The risk of leukaemia did not vary by sex,

age, time, or radiation dose from ¹³¹I. One reason for the absence of a radiation effect, other than chance, includes the possible lowering of risk when exposure is protracted over time as occurs with ¹³¹I. Excess leukaemia risks of more than 25% could thus be excluded with high assurance in this population of mainly adults. These results should be reassuring to patients exposed to ¹³¹I in medical practice and to most individuals exposed to the fall-out from the *Chernobyl* accident. Author-abstract.

207

AN 92294853. 92000.

AU Forberg-S. Odsjo-T. Olsson-M.

IN Royal Institute of Technology, Department of Nuclear Chemistry, Stockholm, Sweden.

TI Radiocesium in muscle tissue of reindeer and pike from northern Sweden before and after the *Chernobyl* accident. A retrospective study on tissue samples from the Swedish Environmental Specimen Bank.

SO Sci-Total-Environ. 1992 Apr 30. 115(3). P 179-89.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* accident in April 1986, considerable deposition of radionuclides occurred regionally in eastern, central and northwestern Sweden. Locally, the fallout of radiocesium exceeded the remainder from atmospheric nuclear weapons tests by several magnitudes. Since the end of the 1960s samples of organs from various plant and animal species, annually collected at different localities, have been preserved in the Swedish Environmental Specimen Bank (ESB). In this work samples from the ESB have been used for retrospective studies of radioactive pollution. The activities of Cs-134 and Cs-137 in muscle tissues from reindeer, Rangifer tarandus, and pike, Esox lucius, preserved in the ESB, were measured. The samples were collected annually; the reindeer at three localities in northern Sweden and the pike at one of them. In material collected prior to the *Chernobyl* accident, the levels of Cs-137 were 57-180 Bq/kg in reindeer and 14-24 Bq/kg in pike, fresh weight basis. These levels relate to earlier nuclear bomb tests. A significant decrease was found in pike during the *pre-Chernobyl* period (1971-86). In *post-Chernobyl* samples the burden of Cs-137 varied from amounts equal to the former levels in the northernmost locality and up to 80 times higher for the maximum values in the southernmost locality. The highest value recorded was 18,425 Bq/kg in reindeer. The geographic variations in reindeer from *Chernobyl* fallout were in accordance with the pattern of deposition estimated by aircraft surveys performed in May 1986. The ratio between 'new' and 'old' radiocesium burdens in pike, caught in 1987, approached the corresponding ratio for reindeer grazing in the precipitation area of the lake; 33 and 19, respectively. Author-abstract.

208

AN 92294291. 92000.

AU Alexandrowski-J-A. Rumjanzewa-G-M. Jurow-W-W. Martjuschow-A-A.
IN Center of Borderline Psychiatry, Moskva, Russland, GUS.
TI `The dynamics of psychological maladjustment states of chronic stress
in inhabitants of areas involved in the Czernobyl nuclear accident:.
SO Psychiatr-Prax. 1992 Mar. 19(2). P 31-4.
JT PSYCHIATRISCHE PRAXIS.
PT JOURNAL-ARTICLE (ART).
AB The authors summarize findings from a 1990 study with 300 inhabitants
from areas with various degrees of contamination on psychological,
psychiatric, and somatic consequences of the *Chernobyl* disaster.
With critical reference to previous studies and their endogenic
interpretation the specific situational and environmental complexity
is seen as pathogenetic. The authors discuss the APA DSM-III-R
309-89 posttraumatic syndrome and give specifications of this kind of
over all, and long term stress. Author-abstract.

209

AN 92294148. 92000.
AU Lomako-M-N. Kalechits-O-M.
TI `Activities of the Byelorussian scientific association of
phthisiatrists and the phthisiatric organization of the Republic in
the circumstances of complicated critical state of tuberculosis in
connection with the *Chernobyl* AES accident:.
SO Probl-Tuberk. 1992. (1-2). P 59-61.
JT PROBLEMY TUBERKULEZA.
PT JOURNAL-ARTICLE (ART).

210

AN 92285426. 92000.
AU Sukhoruchkin-A-K.
TI `An assessment of the permissible level of a mixture of radionuclides
from the *Chernobyl* fallout in human lungs:.
SO Radiobiologiya. 1992 Mar-Apr. 32(2). P 163-71.
JT RADIOBIOLOGIYA.
PT JOURNAL-ARTICLE (ART).
AB The permissible level of a radionuclide mixture, resulted from the
Chernobyl burst, in the human being lungs was determined for two
kinds of compounds: absolutely insoluble compounds and soluble
compounds in the state of equilibrium. For this purpose the data
were used concerning the radionuclide composition and aerosol
disperse in lower atmosphere which were obtained by the Department
for Dosimetric Control (NPO "Pripiat"). The results of measurements
of 137Cs content taken by the use of human radiation spectrometer
(HRS) needed an adequate estimation: low level of 137Cs in the human
lungs and body within the *Chernobyl* NPP, zone does not guarantee
radiation security. The notion "permissible content" and the
possibility of using thereof in the individual dosimetric control are
discussed. Author-abstract.

211

AN 92283678. 92000.

AU Marovic-G. Lokobauer-N. Bauman-A.

IN Department of Radiation Protection, University of Zagreb, Republic of Croatia.

TI Risk estimation of radioactive contamination after the *Chernobyl* accident using bioindicators.

SO Health-Phys. 1992 Apr. 62(4). P 332-7.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* nuclear accident, game meat and, in particular, sheep meat in the Republic of Croatia showed a high degree of radioactive contamination compared to large livestock. The activity concentrations of ¹³¹I, ¹³⁴Cs, and ¹³⁷Cs were measured in meat and internal organs (i.e., lung, liver, kidney, and heart) of game (e.g., venison, hare, and wild boar) and sheep that were used as biological indicators of radioactive contamination. In order to estimate the importance of game and sheep as a dietary source of radioactivity, the effective dose equivalent for the average and critical population (hunters and livestock raising families) were calculated. The data indicated that sheep meat represents greater risk for the human population, in case of a nuclear accident, than game meat. The share of meat from sheep (4.4%) prevailed over the share of meat from game (0.5%) when comparing the average intake of meat per inhabitant in Croatia. This result pointed to an increased risk for families who depend mostly on sheep meat in the case of a nuclear accident. Author-abstract.

212

AN 92280733. 92000.

AU Stiehm-E-R.

IN UCLA Department of Pediatrics 90024-1752.

TI The psychologic fallout from *Chernobyl*.

SO Am-J-Dis-Child. 1992 Jun. 146(6). P 761-2.

JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.

PT JOURNAL-ARTICLE (ART).

213

AN 92280068. 92000.

AU Chaialo-P-P. Chobotko-G-M. Shimelis-I-V. Prevarskii-B-P.

TI `Content of blood lipids and characteristics of dyslipoproteinemias in people exposed to radiation during the accident at the *Chernobyl* nuclear power station:.

SO Ukr-Biokhim-Zh. 1991 Nov-Dec. 63(6). P 93-6.

JT UKRAINSKII BIOKHMICHESKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB Lipid and lipoprotein spectrum of the blood plasma was investigated and phenotyping of hyperlipoproteinaemias was carried out in men exposed to ionizing radiation and suffered from acute radiation illness as a result of the *Chernobyl* accident. An increase of the total cholesterol triglycerides and content frequency of atherogenic

types of hyperlipoproteinaemias in comparison with average levels of population both a year and 3 years after irradiation was observed. No essential differences were found between the obtained indices 1 and 3 years after irradiation which testified to the stability of the revealed disturbances. Author-abstract.

214

AN 92276055. 92000.

AU Roed-K-H. Eikermann-I-M. Jacobsen-M. Pedersen-O.

IN Department of Animal Genetics, Norwegian College of Veterinary Medicine.

TI Chromosome aberrations in Norwegian reindeer calves exposed to fallout from the *Chernobyl* accident.

SO Hereditas. 1991. 115(3). P 201-6.

JT HEREDITAS.

PT JOURNAL-ARTICLE (ART).

AB Chromosome aberrations were analysed in 1222 peripheral blood lymphocytes from 24 reindeer, Rangifer tarandus L., calves from central Norway, where considerable fallout from *Chernobyl* accident had occurred, and in 1532 lymphocytes from 26 calves from three different districts in Northern Norway which were not affected by fallout from the accident. Three dicentrics, two rings, and three translocations were detected in calves from the exposed area, while no dicentrics, nor rings and only one translocation were detected in the control calves. The frequency of chromatid-type aberrations and chromosome deletions did not significantly differ between the two groups. Although the present study is based on a limited number of observations, the radioactive burden in the exposed reindeer, and the differing character of the chromosome aberrations in the two groups, might indicate that certain genetic effects have occurred as a result of the *Chernobyl* accident in Norwegian reindeer in the most contaminated areas. Author-abstract.

215

AN 92274093. 92000.

AU Dolk-H.

IN Departement d'Epidemiologie et de Medecine preventive, Ecole de Sante publique, Universite catholique de Louvain-en-Woluwe.

TI `Epidemiological survey of central nervous system anomalies and the implications of teratogens:.

SO Bull-Mem-Acad-R-Med-Belg. 1991. 146(8-10). P 365-73.

JT BULLETIN ET MEMOIRES DE L ACADEMIE ROYALE DE MEDECINE DE BELGIQUE.

PT JOURNAL-ARTICLE (ART).

AB One of the aims of epidemiologic surveillance is to assess the role of environmental factors acting during pregnancy (teratogens) in abnormal development of the nervous system. The data of Eurocat, a european system of congenital anomaly surveillance, was analysed and evaluated. Great geographical variation is observed in the prevalence of neural tube defects. Geographical variation in the prevalence of microcephaly, hydrocephaly and holoprosencephaly, may

be related to problems of definition, validation and precision of diagnosis. A better definition of the unit of surveillance is required for anomalies where phenotypic heterogeneity is linked to aetiologic heterogeneity (such as neural tube defects) and for anomalies which range from minor to major forms (such as microcephaly). The strengths and deficiencies of the surveillance system for central nervous system anomalies are revealed by its performance in the evaluation of the *Chernobyl* accident.
Author-abstract.

216

AN 92271421. 92000.
AU Zabolotnyi-D-I. Shidlovskaya-T-V. Mishchanchuk-N-S. Kotov-A-I.
TI `State of auditory function based on data of audiometry and dynamic impedance-metry in persons exposed to radiation during liquidation of the *Chernobyl* AES accident:.
SO Vestn-Otorinolaringol. 1992 Jan-Feb. (1). P 11-4.
JT VESTNIK OTORINOLARINGOLOGII.
PT JOURNAL-ARTICLE (ART).
AB A total of 251 men at the age of 23 to 50 have been examined with the use of audiometry and dynamic impedance metry who had obtained various doses of radiation connected with the work at the *Chernobyl* Power Plant. It was established that in 57.8% of the cases the audition was within the physiological norm and in 42.2% various forms of audition derangements were diagnosed. Author-abstract.

217

AN 92266066. 92000.
AU Mettler-F-A Jr.
TI Report of the International *Chernobyl* Project `letter; comment:.
SO BMJ. 1992 Apr 18. 304(6833). P 1058.
JT BMJ.
PT COMMENT (COM). LETTER (LET).

218

AN 92266032. 92000.
AU Darby-S-C. Olsen-J-H. Doll-R. Thakrar-B. Brown-P-D. Storm-H-H. Barlow-L. Langmark-F. Teppo-L. Tulinius-H.
IN Imperial Cancer Research Fund Cancer Epidemiology Unit, University of Oxford, Radcliffe Infirmary, United Kingdom.
TI Trends in childhood leukaemia in the Nordic countries in relation to fallout from atmospheric nuclear weapons testing.
SO BMJ. 1992 Apr 18. 304(6833). P 1005-9.
JT BMJ.
PT JOURNAL-ARTICLE (ART).
AB OBJECTIVE--To obtain further information about the risks of childhood leukaemia after exposure to ionising radiation at low doses and low dose rates before or after birth or to the father's testes shortly before conception. DESIGN--Observational study of trends in incidence of childhood leukaemia in relation to estimated radiation

exposures due to fallout from atmospheric nuclear weapons testing during the 1950s and 1960s. SETTING--Nordic countries. SUBJECTS--Children aged under 15 years. MAIN OUTCOME MEASURES--Incidence rates of leukaemia by age at diagnosis, sex, country, and calendar year of diagnosis or year of birth; exposure category; relation between leukaemia and exposure for children aged 0-14 and 0-4 separately. RESULTS--During the high fallout period the average estimated dose equivalent to the fetal red bone marrow was around 140 mu Sv and the average annual testicular dose 140 mu Sv. There was little evidence of increased incidence of leukaemia among children born in these years. Doses to the red bone marrow of a child after birth were higher, and during the high exposure period children would have been subjected to an additional dose equivalent of around 1500 mu Sv, similar to doses received by children in several parts of central and eastern Europe owing to the *Chernobyl* accident and about 50% greater than the annual dose equivalent to the red bone marrow of a child from natural radiation. leukaemia incidence and red marrow dose was not related overall, but rates of leukaemia in the high exposure period were slightly higher than in the surrounding medium exposure period (relative risk for ages 0-14: 1.07, 95% confidence interval 1.00 to 1.14; for ages 0-4: 1.11, 1.00 to 1.24). CONCLUSIONS--Current predicted risks of childhood leukaemia after exposure to radiation are not greatly underestimated for low dose rate exposures. Author-abstract.

219

AN 92264470. 92000.

AU Iakovlev-N-I. Fedorova-M-V. Zhilenko-M-I. Aleksandrova-A-V. Rebrova-T-V.

TI `The immune status of nonpregnant and pregnant women living constantly under ionizing radiation exposure conditions:.

SO Akush-Ginekol (Mosk). 1991 Nov. (11). P 42-5.

JT AKUSHERSTVO I GINEKOLOGIJA.

PT JOURNAL-ARTICLE (ART).

AB A total of 455 women, both pregnant and nonpregnant ones, permanently living in zones I and II of ionizing irradiation, were examined in 13 months after the *Chernobyl* Power Plant accident. Monocyte phagocytic activity and humoral immunity parameters were under study. An imbalance of the immunity parameters were characteristic of all the examinees living in zone I: they presented with disordered phagocytic activity of the monocytes, elevated levels of circulating R proteins, reduced production of natural and specific antibodies, changed concentrations of the principal immunoglobulin classes. The immune status of women living in the zone II was found lowered at the expense of reduced phagocytic activity of the monocytes, production of natural antibodies and immunoglobulins, shifted to either sides R protein levels, this necessitating immunocorrective therapy before pregnancy onset. Author-abstract.

220

AN 92255045. 92000.

AU de-Ruig-W-G. van-der-Struijs-T-D.

IN State Institute for Quality Control of Agricultural Products-DLO (RIKILT-DLO), Wageningen, The Netherlands.

TI Radioactive contamination of food sampled in the areas of the USSR affected by the *Chernobyl* disaster.

SO Analyst. 1992 Mar. 117(3). P 545-8.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB In October 1990 a Netherlands humanitarian fact finding mission on aid to people affected by the *Chernobyl* disaster visited contaminated regions in Russia, Byelorussia and the Ukraine. The mission consisted of medical, socio-psychological and agricultural experts. The results of radioactivity measurements on food products sampled in the contaminated areas are reported here and the radiation burden for the Soviet citizens due to these products is discussed. The radiocaesium contamination measured in 19 food products ranged between 0 and 170 Bq kg⁻¹ and 40K from 25 to 200 Bq kg⁻¹ in the fresh product. Strontium-90, measured in a few samples, was found to be between 1.8 and 30 Bq kg⁻¹. Mushrooms and reindeer moss were very highly contaminated: from 103,000 to 284,000 Bq kg⁻¹ of radiocaesium in the fresh product. Strontium-90 in these samples was 7.8-1550 Bq kg⁻¹. The contamination of all food products was far below the stated limits, except for mushrooms. Extrapolation of the results to the total food consumption gave the radioactive burden due to this food as an estimated 0.2 mSv per year. All of the food products investigated, except mushrooms, can be regarded as safe with respect to radioactive contamination. In addition to sampling agricultural produce, field exposure measurements were also carried out. The measured values, expressed in equivalent doses, ranged from 1.8 to 14 mSv per year at a height of 1 m, with a median value of about 4 mSv per year. Author-abstract.

221

AN 92255044. 92000.

AU Ortiz-J. Ballesteros-L. Serradell-V.

IN Department of Chemical and Nuclear Engineering, Polytechnic University of Valencia, Spain.

TI *Post-Chernobyl* accident radioactivity measurements in the Comunidad Autonoma de Valencia, Spain.

SO Analyst. 1992 Mar. 117(3). P 539-43.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Increased atmospheric radioactivity after the accident in *Chernobyl* was first detected on air filters. Measurements were begun in Valencia on May 2, 1986, with the maximum activity being observed around May 3-4, 1986. As a consequence of this accident, annual campaigns of measurements on migrating birds (several species of aquatic birds and song-thrushes) were started. The data corresponding to the campaign immediately after the accident

(1986/87) show a generalized contamination (approximately 50% of the measured specimens). Significant levels of ¹³⁴Cs, ¹³⁷Cs and ¹¹⁰Agm were found. It is important to note that ¹¹⁰Agm is only present in *Aythya ferina*. In the successive campaigns in 1988/89 and 1989/91 few samples were found to be contaminated and only ¹³⁷Cs was identified. Strontium-90 was measured and identified in some specimens, mainly in their bones. Author-abstract.

222

AN 92255043. 92000.

AU Berzero-A. Borroni-P-A. Oddone-M. Crespi-V-C. Genova-N. Meloni-S.

IN Laboratorio Energia Nucleare Applicata, Universita di Pavia, Italy.

TI Distribution of radionuclides in the environment in northern Italy after the *Chernobyl* accident.

SO Analyst. 1992 Mar. 117(3). P 533-7.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Soon after the *Chernobyl* nuclear accident, the air-pumping stations in Pavia (northern Italy) were alerted. In a few days, a rapid increase in radionuclide concentration in air particulates was observed. Consequently, an environmental radioactivity monitoring programme was started in which several matrices such as soil, grass, vegetables and cows' milk were subjected to direct gamma-ray spectrometry. The radioactivity distribution and its variation with time is presented, discussed and compared with other available data. Detection limits, precision and accuracy are also reported, and depth profiles in soils for ¹³⁷Cs are presented and correlated with soil quality parameters. A survey of environmental radioactivity in soil, in a search for residual *Chernobyl* fallout, was carried out and a map of the ¹³⁷Cs distribution over a large area in northern Italy is presented and discussed. Author-abstract.

223

AN 92255041. 92000.

AU Beckmann-C. Faas-C.

IN Federal Institute of Geosciences and Natural Resources (BGR), Hannover, Germany.

TI Radioactive contamination of soils in lower Saxony, Germany, after the *Chernobyl* accident.

SO Analyst. 1992 Mar. 117(3). P 525-7.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB The horizontal and spatial distribution of artificial and natural radionuclides in soils, and the vertical migration velocity of 0.8-2.0 cm per annum for caesium were examined in order to determine whether caesium is still in the root zone of major plants and, therefore, part of the food-chain. The vertical distribution patterns of caesium are dependent on the different physico-chemical soil properties. The soil samples were analysed with a pure Ge

detector. In south-eastern Lower Saxony, the maximum gamma-activity for ^{137}Cs of 33.3 kBq m^{-2} was found in a depth range of 0-20 cm (January 1, 1989). This was correlated with areas that had received heavy rainfall on May 4, 1986. On January 1, 1989 approximately 60% of the *Chernobyl* caesium was still in the top 0-2 cm of the topsoil. Author-abstract.

224

AN 92255040. 92000.
AU MacNeill-G. Duffy-J-T. Cunningham-J-D. Coulter-B. Diamond-S. McAulay-I-R. Moran-D.
IN Nuclear Energy Board, Dublin, Ireland.
TI Transfer characteristics of radiocaesium from soils to permanent pasture.
SO Analyst. 1992 Mar. 117(3). P 521-4.
JT ANALYST.
PT JOURNAL-ARTICLE (ART).
AB Depth profile measurements of ^{137}Cs and ^{134}Cs were carried out in 11 permanent pastures that had been exposed to fallout from the *Chernobyl* accident. In addition to gamma-ray spectrometric analysis, the selected pastures were characterized by several soil parameters, the influence of which on transfer was investigated. Sampling of soil and pasture grass was undertaken during a period extending from the Spring of 1987 to the Autumn of 1988. The results show that there has been limited downward migration of *Chernobyl-derived* caesium. In October 1988 more than 88% of the ^{137}Cs attributable to *Chernobyl* was mainly confined to the top 10 cm of undisturbed soil, with 79% on average in the top 5 cm. The distribution of *pre-Chernobyl* caesium at the 11 sites was also evaluated. In an investigation of the influence of soil parameters on transfer to grass, a negative correlation with pH was observed in 1987. In April 1987 concentration ratios for ^{137}Cs in grass ranged from 0.03 to 0.49. In general, comparison of the concentration ratio values showed a decreasing trend over the 18 months. Author-abstract.

225

AN 92255039. 92000.
AU Brittain-J-E. Bjornstad-H-E. Salbu-B. Oughton-D-H.
IN Freshwater Ecology and Inland Fisheries Laboratory (LFI), University of Oslo, Norway.
TI Winter transport of *Chernobyl* radionuclides from a montane catchment to an ice-covered lake.
SO Analyst. 1992 Mar. 117(3). P 515-9.
JT ANALYST.
PT JOURNAL-ARTICLE (ART).
AB The amounts of ^{137}Cs and ^{90}Sr have been determined in the inflows and outflows of the Norwegian sub-alpine lake, Ovre Heimdalsvatn, in March/April during the period of ice-cover, when discharge is extremely stable. The lake is situated in an area contaminated by *Chernobyl* fallout. The transported coarse particulate plant material

has been collected in traps; the particles and colloids have been removed from water samples by cross-flow ultrafiltration. On the basis of radionuclide inputs and outputs, lake budget calculations have been made for ¹³⁷Cs and ⁹⁰Sr during the period of ice-cover. Daily transport of radionuclides is considerably less than that observed during the spring snowmelt period when discharges are high. Size distribution patterns of Cs and Sr observed during winter are compared with previously published data from the same lake during the spring spate. The retention of ¹³⁷Cs is similar in winter and spring, but retention of ⁹⁰Sr is greater in winter.
Author-abstract.

226

AN 92255038. 92000.
AU Risica-S. Campos-Venuti-G. Rogani-A. Baronciani-D. Petrone-M.
IN Laboratorio di Fisica, Istituto Superiore di Sanita, Rome, Italy.
TI Caesium contamination in human milk and transfer factor from diet.
SO Analyst. 1992 Mar. 117(3). P 511-4.
JT ANALYST.
PT JOURNAL-ARTICLE (ART).
AB A study on caesium contamination in human milk, as a consequence of the *Chernobyl* fallout, was conducted in 1989 on a group of women from one of the areas of northern Italy most heavily affected by the radioactive fallout. Their diet was studied, and the caesium intake was calculated by using the mean food activity concentration in that area. The caesium transfer factor was evaluated both as the ratio of caesium concentration in mother's milk to the daily intake, and by using a simplified milk compartment model. Author-abstract.

227

AN 92255037. 92000.
AU Singleton-D-L. Livens-F-R. Beresford-N-A. Howard-B-J.
Barnett-C-L. Mayes-R-W. Segal-M-G.
IN Institute of Terrestrial Ecology, Merlewood Research Station,
Cumbria, UK.
TI Development of a laboratory method to predict rapidly the
availability of radiocaesium.
SO Analyst. 1992 Mar. 117(3). P 505-9.
JT ANALYST.
PT JOURNAL-ARTICLE (ART).
AB A simple extraction procedure has been developed to assess rapidly the probable extent of the transfer of radiocaesium into ruminant food products soon after a nuclear accident. The in vitro extractions were validated against true absorption measurements of different forms of radiocaesium in the sheep gut. Extractions were performed on a range of different radiocaesium sources. Some of these sources were artificial (ionic radiocaesium adsorbed onto bentonite, silica spheres and filter-papers) and others were environmentally contaminated `silt from the Ravenglass Estuary contaminated by effluent from British Nuclear Fuels Limited (BNFL)

Sellafield, and upland grass and heather contaminated by *Chernobyl* fallout:. Laboratory experiments concentrated primarily on the use of simple inorganic extractants in competitive ion-exchange processes. Of the reagents used, 0.1 mol dm⁻³ stable caesium chloride solution was the most effective extractant. The proportion of radiocaesium extracted by 0.1 mol dm⁻³ caesium chloride correlated well with measurements of true absorption. Extracting radiocaesium using 0.1 mol dm⁻³ caesium chloride proved to be an inexpensive and rapid method of predicting the availability of radiocaesium for absorption in the ruminant gut, giving results within 24 h. Further extractions were carried out using cellulase/pepsin simulated digestions and ovine rumen fluid. Results suggested that the availability of radiocaesium from some inorganic sources may be underestimated using such techniques. Author-abstract.

228

AN 92255036. 92000.

AU Bretten-S. Gaare-E. Skogland-T. Steinnes-E.

IN Museum of Natural Sciences and Archaeology, University of Trondheim, Norway.

TI Investigations of radiocaesium in the natural terrestrial environment in Norway following the *Chernobyl* accident.

SO Analyst. 1992 Mar. 117(3). P 501-3.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Radioactive fallout from the *Chernobyl* accident affected parts of central Norway to a considerable extent, in particular the ¹³⁴Cs+¹³⁷Cs deposition had a significant impact on the natural environment. When this became apparent, a comprehensive radioecological research programme was initiated in order to study the behaviour of radiocaesium in boreal and alpine ecosystems, with emphasis on food-chains leading to exposure of species used for human consumption, i.e., reindeer and freshwater fish. In this paper results from the terrestrial part of this research programme during the period 1986-1990 are presented. The work was mainly confined to the mountain areas of Dovre and Rondane. Parallel studies were performed in eutrophic and strongly oligotrophic communities. The influence of local variations in topography and microclimate on the observed radiocaesium levels in topsoils, lichens and vascular plants was studied in detail. Currently a significant re-distribution of radiocaesium from the originally strongly exposed surfaces to those that were less exposed is observed. In the soil, radiocaesium is strongly retained in the litter and raw humus layers. Current levels in lichens are 1-2 orders of magnitude higher than in vascular plants. This strongly affects the seasonal variation of radiocaesium in reindeer, showing winter maxima of about 5 times higher than the August levels. The radiocaesium levels in reindeer showed a decline of approximately a factor of 3 during the period 1987-1990. Other animal species studied in the programme exhibited substantially lower radiocaesium levels than reindeer, but a considerable interspecies

variation was observed. Author-abstract.

229

AN 92255035. 92000.

AU Aarkrog-A.

IN Environmental Science and Technology Department, Riso National Laboratory, Roskilde, Denmark.

TI Concept of seasonality in the light of the *Chernobyl* accident.

SO Analyst. 1992 Mar. 117(3). P 497-9.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Seasonality could have a strong influence on the radiological impact of environmental radioactive contamination. Short-lived radionuclides (e.g., ¹³¹I) and those that mainly enter the food chain by direct contamination (e.g., ¹³⁷Cs) are especially important in this context. In particular, the contamination of cereals is influenced by seasonality. For temperate latitudes it is generally true that radioactive contamination during winter, when the fields lie fallow and the domestic animals are stabled, will result in a significantly lower radiological impact than if a similar contamination were to take place in the summer shortly before harvesting. The impact of the *Chernobyl* accident on the radioactive contamination of human diet was strongly influenced by seasonality. Author-abstract.

230

AN 92255034. 92000.

AU Selnaes-T-D. Strand-P.

IN National Institute of Radiation Hygiene, Osteras, Norway.

TI Comparison of the uptake of radiocaesium from soil to grass after nuclear weapons tests and the *Chernobyl* accident.

SO Analyst. 1992 Mar. 117(3). P 493-6.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB In order to compare the transfer factors of ¹³⁷Cs deposited after the fallout from the *Chernobyl* accident with ¹³⁷Cs from nuclear weapons testing, soil and vegetation samples have been collected from a semi-natural ecosystem in western Norway. For the ¹³⁷Cs from *Chernobyl*, 85% is found in the upper 5 cm of soil, whereas most of the nuclear weapons test ¹³⁷Cs is found between 3 and 12 cm in the soil profile. The transfer factors from soil to vegetation are calculated to be 0.41 +/- 0.07 m² kg⁻¹ for the nuclear weapons test ¹³⁷Cs and 0.40 +/- 0.22 m² kg⁻¹ for *Chernobyl* ¹³⁷Cs. Hence, the results show no significant difference between the two fallouts. The effective ecological half-life of ¹³⁷Cs for this ecosystem is estimated to be between 10 and 20 years. Wash-out and binding effects seem to be of minor importance for the uptake. Author-abstract.

231

AN 92255032. 92000.

AU Oughton-D-H. Salbu-B. Riise-G. Lien-H. Ostby-G. Noren-A.

IN Isotope and Electron Microscopy Laboratories, Agricultural University of Norway, Aas.

TI Radionuclide mobility and bioavailability in Norwegian and Soviet soils.

SO Analyst. 1992 Mar. 117(3). P 481-6.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB A sequential extraction procedure has been applied to study the speciation of *Chernobyl-derived* radionuclides (^{137}Cs and ^{90}Sr) in soils from Norway, and from Byelorussia and the *Chernobyl* region in the USSR. Most ^{137}Cs (greater than 80%) was strongly associated with soil components, whereas ^{90}Sr was more mobile, up to 70% being found in the easily extractable fractions. The ^{90}Sr : ^{137}Cs ratio decreased with the distance from the reactor, reflecting the higher proportion of hot particles deposited in the regions close to the reactor, and the easily extractable fraction of ^{90}Sr was significantly lower in the soils collected from the *Chernobyl* area. The distribution of stable Cs and stable Sr in the extraction fractions was similar for the various sites. Therefore, the location-specific differences in the distribution of ^{90}Sr and, to a lesser extent, ^{137}Cs arise because of fallout speciation rather than because of local environmental factors. Author-abstract.

232

AN 92255031. 92000.

AU Kirchner-G. Baumgartner-D.

IN University of Bremen, Department of Physics/FB 1, Germany.

TI Migration rates of radionuclides deposited after the *Chernobyl* accident in various North German soils.

SO Analyst. 1992 Mar. 117(3). P 475-9.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB In three soils typical for Northern Germany including Eutric Cambisol, Orthic Podsol and Eutric Histosol (Food and Agriculture Organization nomenclature), distributions of ^{90}Sr , ^{134}Cs , ^{137}Cs and $^{239}\text{Pu} + ^{240}\text{Pu}$ in the soil profiles were determined. Sampling was performed more than 3 years after deposition of *Chernobyl* fallout nuclides. Migration rates calculated with a compartmental model showed no significant differences between Cs originating from either atomic weapons or *Chernobyl* fallout. This result indicates that *Chernobyl* Cs may have reached sorption equilibrium with the soil matrix 3 years after the accident. Both the compartmental model and the dispersion equation reproduce distributions of most of the activities, but fail to reproduce some (minor) activity fractions that show increased mobility. Author-abstract.

233

AN 92255030. 92000.

AU Bunzl-K. Kracke-W. Schimmack-W.

IN GSF-Forschungszentrum für Umwelt und Gesundheit, Institut für Strahlenschutz, Neuherberg, Germany.

TI Vertical migration of plutonium-239 + -240, americium-241 and caesium-137 fallout in a forest soil under spruce.

SO Analyst. 1992 Mar. 117(3). P 469-74.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB The vertical activity distributions of fallout ^{238}Pu , $^{239+240}\text{Pu}$, ^{241}Am , ^{134}Cs and ^{137}Cs in a forest soil (Hapludult) were determined at several locations in a spruce stand separately according to their origin (global fallout or *Chernobyl* fallout). To determine the rate of migration of these radionuclides in each soil horizon, the observed depth profiles of the radionuclides were evaluated with a compartment model. In the top organic horizons (LOf1 and Of2), the migration rates for all radionuclides from both sources were above 0.5 cm per year. In the Oh horizon the migration rates observed for global fallout Pu, Am and Cs were similar (0.2-0.4 cm per year). Compared with Pu, however, the mobility of Am is slightly, but statistically significantly, enhanced. The highest rate in this layer was found for *Chernobyl-derived* radiocaesium (2 cm per year). In the layers of the mineral horizon (depth 0-2, 2-5 and 5-10 cm) the observed migration rates were very similar for global fallout Pu (0.08-0.7 cm per year) and Am (0.1-2 cm per year). In comparison, the migration rate of global fallout radiocaesium was about half in each layer. The highest rate was observed again for *Chernobyl-derived* radiocaesium (0.5-3 cm per year).
Author-abstract.

234

AN 92255029. 92000.

AU Haugen-L-E.

IN Department of Soil Sciences, Agricultural University of Norway.

TI Small-scale variation in deposition of radiocaesium from the *Chernobyl* fallout on cultivated grasslands in Norway.

SO Analyst. 1992 Mar. 117(3). P 465-8.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Soil samples from nine field experiments on cultivated grassland showed a variation in deposition of radiocaesium, expressed as the relative standard deviation, from 11 to 111% within an area of $16.5 \times 10 \text{ m}^2$. At the site with the highest variability, situated in a mountainous region of south eastern Norway, a further study was performed. Double sampling including surface measurements with in situ gamma-spectrometry using a portable multi-channel analyser (3 x 3 in NaI detector) and limited soil sampling gave the same average deposition and standard error as an extensive soil sampling. There were no trends in the deposition within the experimental field and most of the variation was found within plots ($1.5 \times 2.5 \text{ m}^2$). 'Hot spots' were found in connection with small depressions (2-5 cm) in

the terrain, and the area of a hot spot was estimated to be 100 cm² from field measurements with a Geiger-Muller counter.
Author-abstract.

235

AN 92255028. 92000.

AU McGee-E-J. Colgan-P-A. Dawson-D-E. Rafferty-B. O'Keeffe-C.

IN Nuclear Energy Board, Dublin, Ireland.

TI Effects of topography on caesium-137 in montane peat soils and vegetation.

SO Analyst. 1992 Mar. 117(3). P 461-4.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB This study investigated the relationship between altitude and ¹³⁷Cs fallout in soils and plants. The soils and plants, *Calluna vulgaris*, *Erica cinerea* and *Molinia caerulea*, were sampled across a transect of two valleys in north-western Ireland. The results provided evidence that greater ¹³⁷Cs deposition to soils occurred at higher altitudes, and the data supported the findings of a previous investigation in the same area. A valley effect, whereby greater concentrations of ¹³⁷Cs accumulated in plants on the lower altitudes of the valley floors, was shown to be significant. Deposition values for total ¹³⁷Cs in soils were not correlated with plant concentrations, although a relationship between concentrations in *C. vulgaris* and *M. caerulea* was found to be statistically significant. No relationship was observed between the ¹³⁷Cs from weapons fallout with that of *Chernobyl* origin in the 0-10 cm depth soils, although a significant correlation emerged between the same two components measured in *C. vulgaris*. The results suggest that existing definitions of concentration ratios and transfer factors are, for many reasons, inappropriate for studies of soil to plant transfer of ¹³⁷Cs in peatland ecosystems. Author-abstract.

236

AN 92255027. 92000.

AU McAulay-I-R. Moran-D.

IN Department of Pure and Applied Physics, Trinity College, Dublin, Ireland.

TI Relationships between deposition of *Chernobyl* originating caesium and ruthenium radionuclides and rainfall in Ireland.

SO Analyst. 1992 Mar. 117(3). P 455-9.

JT ANALYST.

PT JOURNAL-ARTICLE (ART).

AB Deposition data for caesium and ruthenium radionuclides in Ireland as a result of the *Chernobyl* accident were obtained by high-resolution gamma-ray spectrometry of soil samples taken at 111 locations throughout the country. Investigation of the relationships between deposition and recorded rainfall in relevant periods enabled an assessment to be made of the activity concentration within the plume during the wash-out phase. Detailed surveys in two regions of the

country enabled a comparison to be made of the relative deposition of ruthenium and caesium isotopes. No evidence was found to suggest any difference in wash-out ratios for the two ruthenium isotopes.
Author-abstract.

237

AN 92255026. 92000.
AU Salbu-B. Steinnes-E.
IN Isotope and Electron Microscopy Laboratories, Agricultural University of Norway, As.
TI Measurements of radionuclides after the *Chernobyl* accident. XXVII CSI pre-symposium. June 6-8, 1991, Bergen, Norway.
SO Analyst. 1992 Mar. 117(3). P 454.
JT ANALYST.
PT MEETING-REPORT (MET).

238

AN 92255011. 92000.
AU Salbu-B. Steinnes-E.
IN Isotope Laboratory, Agricultural College of Norway, As.
TI Applications of nuclear analytical techniques in environmental research. Plenary lecture.
SO Analyst. 1992 Mar. 117(3). P 243-9.
JT ANALYST.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB Among nuclear analytical techniques, neutron activation analysis (NAA) is particularly useful for environmental studies. It affords low detection limits for many elements, high specificity and few sources of systematic error, which means that high accuracy is attainable. Neutron activation analysis is particularly useful for trace and ultra-trace analysis of environmental samples (water, soils, rocks and biological material). In trace element work associated with pollution, instrumental NAA is a powerful technique for multi-element surveys, in particular when combined with other spectroscopic techniques. Nuclear techniques, as with most analytical techniques, cannot be used to distinguish between different physico-chemical forms of an element per se. When used in combination with appropriate separation techniques, however, nuclear techniques can provide valuable information about trace element speciation in environmental and biological systems. From dynamic tracer experiments, i.e., addition of chemically well defined labelled compounds to environmental systems, valuable information can be obtained on the distribution of species and on microchemical processes influencing the physico-chemical forms. In these laboratories, speciation studies on trace elements in natural waters have been carried out by using instrumental NAA in combination with physical separation techniques, such as dialysis and ultrafiltration, in situ and in the laboratory. Dynamic radiotracer experiments have provided important information about processes influencing the speciation of trace elements in aquatic systems. Sequential

extraction techniques have proved to be useful in studies on sediments and soils when combined with NAA. Sequential extractions also provide significant information about the physico-chemical behaviour of radionuclides supplied to natural soils from the *Chernobyl* accident. Author-abstract. 39 Refs.

239

AN 92254141. 92000.

AU Skjeldestad-F-E. Munch-J-S. Madland-T-M.

IN Kvinneklinikken, Regionsykehuset i Trondheim.

TI `The *Chernobyl* accident--did it influence the pregnancy outcome in Norway?::.

SO Tidsskr-Nor-Laegeforen. 1992 Apr 10. 112(10). P 1278-81.

JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORENING.

PT JOURNAL-ARTICLE (ART).

AB The outcome of pregnancies in the county of Sor-Trondelag, in Norway, during the 27 months preceding and 21 months after the *Chernobyl* accident has been analysed on the basis of time of conception. The analysis showed a significant decrease in the number of conceptions during the three months immediately after the accident (April-June 1986). This finding can be interpreted to mean fewer "planned" conceptions. The *Chernobyl* accident did not seem to have had any impact on the proportion of conceptions ending as spontaneous abortions or ectopic pregnancies. There was a significant drop in the proportion of pregnancies ending as induced abortions during the year after the accident compared with the year before. However, due to some variation during this year it is difficult to draw any definite conclusions concerning the impact of the accident on induced abortions in this county. The proportion of pregnancies ending as births increased significantly during the year after the *Chernobyl* accident compared with the year before. Author-abstract.

240

AN 92247558. 92000.

AU Scully-C. de-Almeida-O-P.

IN University Department of Oral Medicine, Surgery and Pathology, Bristol Dental Hospital.

TI Radiation safety: what can happen in an accident.

SO Br-Dent-J. 1992 Apr 11. 172(7). P 263-4.

JT BRITISH DENTAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

AB Radiation hazards in dental practice have long been recognized, and the dangers from ionising radiation during dental radiography are discussed elsewhere. Continuing legislation will undoubtedly help reduce the risk of over-exposure and accidents. Nevertheless, it is of some concern that radiation safety is still ignored by some: for example, one recent survey in the UK showed that not all radiography sets conformed to modern safety standards. However, the profession also has reason to be concerned about more public radiation hazards that may affect them, and their families and others, and may, without

denying the importance of dental radiation protection, have far greater effects on health. Well-known examples of domestic radon exposure occurred in the UK, particularly in the Lake District and the South West, and the nuclear reactor accidents--notably at *Chernobyl* in 1986. Author-abstract.

241

AN 92245681. 92000.
AU Ulashchuk-V-S.
TI `The sequelae of the accident at the *Chernobyl* Atomic Electric Power Station and therapeutic physical factors:.
SO Vopr-Kurortol-Fizioter-Lech-Fiz-Kult. 1992 Jan-Feb. (1). P 59-64.
JT VOPROSY KURORTOLOGII, FIZIOTERAPII I LECHEBNOI FIZICHESKOI KULTURY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 56 Refs.

242

AN 92245366. 92000.
AU Grinikh-L-I. Shevchenko-V-V.
IN N.K. Koltzov Institute of Developmental Biology, USSR Academy of Sciences, Moscow.
TI Cytogenetic effects of ionizing radiation in *Crepis tectorum* growing within 30 km of the *Chernobyl* atomic power station.
SO Sci-Total-Environ. 1992 Feb. 112(1). P 9-18.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Cytogenetic effects of chronic irradiation in *Crepis tectorum* populations growing within 30 km of the *Chernobyl* atomic power station were determined by scoring the frequency of chromosome aberrations in first-mitosis-metaphases of root meristematic cells during seed germination. In the first year after the accident there were large differences in the distributions of radionuclides on the plots where the three studied populations were growing. Gamma-irradiation exposure rates were in the range 5-10 mR h⁻¹ (beta-irradiation exposure rates were about 10 times higher). The highest frequency of cells with chromosome aberrations was 9.1% in Population 1, in which cells with multiple aberrations were often observed. In the second year after the accident, six populations were studied growing in plots with exposure rates ranging from 0.02 to 20 mR h⁻¹. Chromosome aberrations were found in 1.4 and 2.2% of the cells at the two highest exposure rates. In a few cases, seedlings were observed where all cells of the root meristem had the same chromosome aberration; in 20 cases these aberrations were heterozygous and in one it was homozygous. The highest frequencies of such karyotypic alterations in the root were 6.2 and 6.6% at the two highest exposure rates. Reciprocal translocations, inversions and complex rearrangements with increased or decreased amounts of genetic material were registered among such changed karyotypes. The presence of plants with altered karyotypes may indicate the existence of active microevolutionary processes in chronically irradiated

populations. Author-abstract.

243

AN 92245365. 92000.

AU Zheleznyak-M-J. Demchenko-R-I. Khursin-S-L. Kuzmenko-Y-I.
Tkalic-P-V. Vitiuk-N-Y.

IN Department of Mathematical Modeling of Water Systems, V. Glushkov
Institute of Cybernetics, Kiev, Ukraine.

TI Mathematical modeling of radionuclide dispersion in the
Pripyat-Dnieper aquatic system after the *Chernobyl* accident.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 89-114.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The *Chernobyl* accident heavily contaminated the largest aquatic system in the Ukraine, requiring the development of a model-based decision support system in the field of aquatic radioecology. The main objectives of the system were to simulate and predict radionuclide dispersion in the Pripyat-Dnieper River-reservoir system, assess the effectiveness of special hydraulic countermeasures designed to decrease the rate of radionuclide dispersion in the water bodies, and support the Dnieper reservoirs' management operations. A hierarchy of mathematical models was developed. A two-dimensional (2-D) vertical-longitudinal model, a 2-D lateral-longitudinal model, a one-dimensional (1-D) channel model and a box-type model are briefly presented. These models describe the main features of radionuclide dispersion, including the processes governing radionuclide-sediment interactions. Examples of the models' applications are presented to show the peculiarities of radionuclide dispersion in this aquatic system. Author-abstract.

244

AN 92245364. 92000.

AU Prister-B. Loshchilov-N. Perepelyatnikova-L. Perepelyatnikov-G.
Bondar-P.

IN Ukrainian Scientific Research Institute of Agricultural Radiology,
Kiev.

TI Efficiency of measures aimed at decreasing the contamination of
agricultural products in areas contaminated by the *Chernobyl* NPP
accident.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 79-87.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The sequence of agricultural countermeasures taken in the Polesse area of the Ukraine contaminated by radionuclides as a result of the *Chernobyl* NPP accident is discussed. The efficiency of these countermeasures has been analysed. The concentration of ¹³⁷Cs in crops has been shown to vary 10-100-fold, depending on the biological features of the plant species and on soil properties. Liming and mineral fertilizing of meadows increase the yield of grass and reduce ¹³⁷Cs transfer to cows' milk up to 3.5-fold. Author-abstract.

245

AN 92245363. 92000.

AU Krivolutzkii-D-A. Pokarzhevskii-A-D.

IN Institute of Evolutionary Animal Morphology and Ecology, USSR Academy of Sciences, Moscow.

TI Effects of radioactive fallout on soil animal populations in the 30 km zone of the *Chernobyl* atomic power station.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 69-77.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Studies were carried out during July and September 1986, April 1987, and October 1988. Radioactive fallout after the *Chernobyl* atomic power station (APS) accident induced catastrophic effects on populations of small pine-litter faunae within the 3 km zone around the station. Effects on soil faunae were not so marked due to shielding by the soil, or on litter faunae at the edge of the 30 km zone due to distance from the source. Thirty-gray doses did not directly affect adult animals in the soil and litter, but impacted their eggs and juveniles. Resident populations recovered slowly during the first year after the accident. Insect migration into the contaminated area was the primary source of soil animal population recovery. After 2-2.5 years, marked differences between populations in the contaminated and control areas were no longer found.

Author-abstract.

246

AN 92245362. 92000.

AU Taskaev-A-I. Frolova-N-P. Popova-O-N. Shevchenko-V-A.

IN Institute of Biology, Komi Science Centre of the USSR Academy of Sciences, Moscow.

TI The monitoring of herbaceous seeds in the 30-km zone of the *Chernobyl* nuclear accident.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 57-67.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Species of wild herbaceous plants growing over a period of 3 years under chronic irradiation resulting from the *Chernobyl* accident were studied. Examining the mass of 1000 seeds and their germination did not yield any significant differences between groups of seeds of the same species collected from different contaminated zones. Nor did the frequency of aberrant cells in roots of germinated seeds reveal any significant differences between zones. Seeds of *Plantago lanceolata*, growing in areas with higher levels of radiation, did appear to be more sensitive to additional gamma-irradiation.

Author-abstract.

247

AN 92245361. 92000.

AU Shevchenko-V-A. Pomerantseva-M-D. Ramaiya-L-K. Chekhovich-A-V.

Testov-B-V.

IN N.I. Vavilov Institute of General Genetics, USSR Academy of Sciences, Moscow.

TI Genetic disorders in mice exposed to radiation in the vicinity of the *Chernobyl* nuclear power station.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 45-56.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Induced reciprocal translocations in spermatocytes of mice, either caught or exposed at the site, were observed at all levels of radioactive contamination around the *Chernobyl* nuclear power station. The frequency of reciprocal translocations was relatively low and increased linearly with increasing dose rate. Among 74 male mice exposed as early embryos, four reciprocal translocation heterozygotes were found. Furthermore, an increase in embryonic mortality and frequency of abnormal sperm heads was observed after termination of exposure, but these decreased rapidly with post-exposure time. Author-abstract.

248

AN 92245360. 92000.

AU Zainullin-V-G. Shevchenko-V-A. Mjasnjankina-E-N. Generalova-M-V. Rakin-A-O.

IN Komy Scientific Center, USSR Academy of Sciences, Syktyvkar.

TI The mutation frequency of *Drosophila melanogaster* populations living under conditions of increased background radiation due to the *Chernobyl* accident.

SO Sci-Total-Environ. 1992 Feb. 112(1). P 37-44.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB One of the problems facing the program in the wake of the *Chernobyl* accident is the estimation of genetic damage to plants and animals. Special attention was directed to studying the influence of radioactive pollutants at the accident site by means of an appropriate test system, using standard genetic subjects. The present study describes such investigations. Levels of persistent genetic damage in natural populations of *Drosophila melanogaster* found in the vicinity of the *Chernobyl* accident site were examined from August 1986 to September 1989. Evidence is presented which indicates a relationship between the levels of radioactive pollution resulting from the *Chernobyl* accident and increasing genetic damage to exposed populations. The possible reasons for the decrease of mutation frequency observed in 1988 and 1989 are also discussed. Furthermore, evidence is presented which suggests that radiosensitive *Drosophila* mutants may be particularly sensitive indicators of radioactive pollution. Author-abstract.

249

AN 92245358. 92000.

AU Abramov-V-I. Fedorenko-O-M. Shevchenko-V-A.

IN Institute of Biology, Kazelian Science Centre, USSR Academy of Sciences, Moscow.
TI Genetic consequences of radioactive contamination for populations of Arabidopsis.
SO Sci-Total-Environ. 1992 Feb. 112(1). P 19-28.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Populations of Arabidopsis thaliana (L.) Heynh. growing within a 30 km radius of *Chernobyl* and characterized by radioactive contamination levels ranging from 0.02 to 240 mR h⁻¹ were analyzed for the frequency of embryonic lethal mutations in 1987 and 1988. Plots that retained high levels of radioactive contamination long after the initial exposure were characterized by a high frequency of mutant plants. Plots with low levels of radioactive contamination, which were significantly reduced soon after exposure, were characterized by a decrease in the initially high proportion of mutant plants. Populations of Arabidopsis exposed to insignificant radioactive contamination showed no increase in the frequency of mutant plants; mutation levels were comparable to those found in control plants. Author-abstract.

250

AN 92245357. 92000.
AU Koulikov-A-O. Ryabov-I-N.
IN A.N. Severtsova Institute of Evolutionary Morphology and Ecology of Animals and Integrated Radioecological Expedition, USSR Academy of Sciences, Moscow.
TI Specific cesium activity in freshwater fish and the size effect.
SO Sci-Total-Environ. 1992 Feb. 112(1). P 125-42.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB The specific Cs-137 activity of muscle tissue of silver carp (*Hypophthalmichthys molitrix*) from the cooling pond of the *Chernobyl* nuclear power plant caught in 1987 and 1988 increased almost linearly with fish weight ("size effect") in contrast to liver tissue, whose specific activity remained independent of weight. A kinetic model for uptake and excretion was developed to describe the size effect in muscle tissue by introducing a weight-dependent Cs biological half-time to fish. Similar size effects of specific Cs-137 activity were also found for other species of fish from the cooling pond, but were primarily attributed to changes in feeding habits with increasing weight of fish rather than to metabolic changes, since the specific Cs-137 activity both of muscle and liver tissue increased with fish weight for those species in contrast to silver carp. Author-abstract.

251

AN 92245356. 92000.
AU Fetisov-A-N. Rubanovich-A-V. Slipchenko-T-S. Shevchenko-V-A.
IN N.I. Vavilov Institute of General Genetics, USSR Academy of Sciences,

Moscow.

TI The structure of *Dreissena polymorpha* populations from basins adjacent to the *Chernobyl* atomic power station.
SO Sci-Total-Environ. 1992 Feb. 112(1). P 115-24.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB The genetic and morphological differences among seven *Dreissena polymorpha* populations exposed to various environmental factors in the water basins adjacent to the *Chernobyl* atomic power station were examined. All of the populations showed differences in gene frequencies at four polymorphic loci. The populations could be divided into two groups according to temperature regime at the breeding site. Differences in *Dreissena polymorpha* populations were observed largely for those loci that showed significant deviations from the Hardy-Weinberg distribution. Radiation failed to cause any significant effect on the population structure. Within the limits considered, diversity in shell coloration among *Dreissena polymorpha* populations was governed by conditions at the breeding site (character of the substrate, rate of water flow, etc.), and not by thermal or radioactive contamination. Author-abstract.

252

AN 92245355. 92000.
AU Syomov-A-B. Ptitsyna-S-N. Sergeeva-S-A.
IN N.I. Vavilov Institute of General Genetics, USSR Academy of Sciences, Moscow.
TI Analysis of DNA strand break induction and repair in plants from the vicinity of *Chernobyl*.*
SO Sci-Total-Environ. 1992 Feb. 112(1). P 1-8.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB For 3 years following the *Chernobyl* accident, DNA repair efficiency was studied in irradiated and control populations of various plant species. Compared with the control populations, some irradiated populations exhibited increases in the yield of DNA single-strand breaks per unit dose of challenge radiation. The effect was registered in low-dose-rate alpha-irradiated populations, but was absent in plant populations growing in conditions of low-dose-rate beta-irradiation. The efficiency of single-strand DNA repair was identical in control and irradiated populations and approximated 100%. Author-abstract.

253

AN 92245354. 92000.
TI Radiobiology and radioecology in the vicinity of *Chernobyl*.*
SO Sci-Total-Environ. 1992 Feb. 112(1). P 1-142.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT OVERALL (OVR).

254

AN 92228985. 92000.

AU Turai-I.

IN Frederic Joliot-Curie National Research Institute for Radiobiology and Radiohygiene, Budapest, Hungary.

TI `The experimental optimization of iodine prophylaxis for decreasing the radiation load from the accidental uptake of radioiodine:.

SO Radiobiologia. 1992 Jan-Feb. 32(1). P 30-4.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB As is proved by nuclear disaster in *Chernobyl* Nuclear Power Plant (NPP), iodine prophylaxis may be respected as one of the most urgent and effective methods of prevention of radiation injury of the thyroid gland in the population affected. Author has studied factors and methods of its efficacy and reliability. On the basis of experiments in rats, analytical ways of determination of the dietary iodine intake (iodine supply) of people living around NPP Paks (Hungary) as well as compartment modelling, experiments it is shown, that for optimisation of iodine prophylaxis in masses it is very important to increase the iodine supply up to the recommended values. Combined use of decreased doses of potassium iodide and perchlorate was found to be the optimal way for removal of radioiodine from pregnant organisms and their offsprings following accidental intake of radioiodine. Author-abstract.

255

AN 92228984. 92000.

AU Gruzdev-G-P. Chistopolskii-A-S.

TI `The problem of the radiosensitivity of bone marrow cellular elements and assessments of the postradiation kinetics of myelopoiesis (an analysis based on data on the sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologia. 1992 Jan-Feb. 32(1). P 3-18.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB On the basis of the data obtained from 61 cases of accidental exposure (0.1-12.5 Gy) at the *Chernobyl* A.P.S. the kinetics of acute radiation bone-marrow syndrome was analyzed and radiosensitivity of the entire spectrum of human granulocytic compartment cells was estimated. The radiosensitivity estimates were made by a "functional" criterion, developed by the authors, which was based on the comparative ability of irradiated and nonirradiated bone marrow cells of different maturity to produce peripheral blood neutrophils. Changes were found in physiology of myeloid cells during their maturation: the maturation mechanism, for cells of the committed pool, was "attached" to the division process, whereas these processes were independent for cells of the dividing and maturing pool. It is once again confirmed that the transit time of a maturing myeloid cell, to begin with the primarily committed one and to end with a peripheral blood neutrophil, is not constant and lasts normally for 32 days. Author-abstract.

256

AN 92228983. 92000.

AU Shishkina-L-N. Materii-L-D. Kudiasheva-A-G. Zagorskaia-N-G.
Taskaev-A-I.

TI `The structural-functional disorders in the liver of wild rodents
from areas of the accident at the *Chernobyl* Atomic Electric Power
Station:.

SO Radiobiologiia. 1992 Jan-Feb. 32(1). P 19-29.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the morphological status of hepatocytes, the
antioxidant activity of lipids and composition of phospholipids, and
dehydrogenase activity in the liver of field mice taken from seven
regions of the *Chernobyl* A.P.S. zone with different levels of
contamination in 1987. There observed multiple types of destructive
damages to the organ; depletion of liver lipids by antioxidants;
diminution of phospholipids within the total lipid level;
considerable increase in the phosphatidyl choline/phosphatidyl
ethanolamine ratio and in the relative content of phospholipid
lysoforms; and inhibition of dehydration processes. In the absence
of a strict correlation between the changes in the biophysical and
biochemical parameters or between the severity of degenerative
changes in hepatocytes and the level of external irradiation, certain
relationship was followed up between liver lipid depletion by
antioxidants, inhibition of dehydration processes and the number of
wild rodents which developed dystrophic changes in the organ. These
structural and functional changes were found in the liver of wild
rodents taken from all the regions: this indicated a considerable
sensitivity of the parameters of the regulatory cell systems and
hepatocytes to the effect of technogenic contamination.
Author-abstract.

257

AN 92227459. 92000.

AU Torubarov-F-S. Chinkina-O-V.

TI `Psychological aftereffects of the disaster at the *Chernobyl* NPS:.

SO Klin-Med (Mosk). 1991 Nov. 69(11). P 24-8.

JT KLINICHESKAIA MEDITSINA.

PT JOURNAL-ARTICLE (ART).

AB Available are the data on the trend in psychoneurological syndromes
demonstrable in all the periods of developing acute radiation disease
in the victims of the disaster at the *Chernobyl* nuclear power
station. It is shown that the risk of small-dose ionizing radiation
may lead to psychological dysadaptation. Psychogenias are outlined
as far as their triggering factors and manifestations in members of
the emergency teams are concerned. Author-abstract.

258

AN 92218634. 92000.

AU Feichtinger-W.
IN Institut fur Sterilitatsbetreuung, Wien, Austria.
TI Environmental factors and fertility.
SO Hum-Reprod. 1991 Sep. 6(8). P 1170-5.
JT HUMAN REPRODUCTION.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB This review deals with the decrease of male and female fertility during the last few decades which might be due to harmful environmental influences, stress and pollutants. Particular attention is drawn to the extent to which alcohol, coffee drinking, cigarette smoking and environmental pollutants may influence human fertility. Possible influences of increased radiation exposure after the nuclear accident of *Chernobyl* and possible hazards of electromagnetic fields are also discussed. Continuing research on the effects of environmental pollution on reproduction should be intensified and supported. Author-abstract. 69 Refs.

259

AN 92213998. 92000.
AU Aleksandrovskii-IuA. Rumiantseva-G-M. Iurov-V-V. Martiushov-A-N.
TI `Dynamics of mental adaptation disorders in chronic stress among the population after the accident at the *Chernobyl* nuclear power plant:.
SO Zh-Nevropatol-Psikhiatr-Im-S-S-Korsakova. 1991. 91(12). P 3-6.
JT ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA.
PT JOURNAL-ARTICLE (ART).
AB A study was made of the formation and dynamics of mental disadaptation in 300 persons living permanently for 4 years in a polluted area of Byelorussia after the *Chernobyl* accident. The high incidence of chronic somatic diseases was marked, forming the basis for the onset of multiple forms of mental disadaptation. 38% of the examined manifested the preclinical premorbid forms of disadaptation. Description of the structure of the forms of the abnormalities observed permits forecasting their further development and developing differentiated measures of therapy. Author-abstract.

260

AN 92209816. 92000.
AU Nazarchuk-L-V.
TI `The natural anti-Pseudomonas aeruginosa and anti-Proteus immunity of the suitable donor population:.
SO Fiziol-Zh. 1992 Jan-Feb. 38(1). P 117-20.
JT FIZIOLOGICHNYI ZHURNAL.
PT JOURNAL-ARTICLE (ART).
AB The natural anti-pyocyanic and anti-Proteus immunity of donorable population of Kiev before the accident at *Chernobyl* Atomic Power Plant has been studied. Blood serums of 3024 deliberately non-immunized persons have been studied. It is determined that there are natural anti-pyocyanic and anti-Proteus antibodies in blood serum of people with different group belonging during the all periods of a year (by ABO system). The anti-pyocyanic and anti-Proteus antibodies

of high titers in blood serum are found in summer most frequently.
Author-abstract.

261

AN 92209363. 92000.
AU Firsakova-S-K. Grebenshchikova-N-V. Timofeev-S-F. Novik-A-A.
Aleksakhin-R-M.
TI `The change in (137)Cs availability for plant root uptake in the area
of the accident at the *Chernobyl* Atomic Power Station:.
SO Dokl-Akad-Nauk-SSSR. 1991. 320(6). P 1498-500.
JT DOKLADY AKADEMII NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

262

AN 92208582. 92000.
AU Boikat-U.
TI `International *Chernobyl* Project. Comments on the information
pamphlet 4/91 of 7/10/1991 of the Federal Office for Radiation
Protection "Long-term health effects of *Chernobyl:* initial facts"
(news):.
SO Gesundheitswesen. 1992 Feb. 54(2). P 102-6.
JT GESUNDHEITSWESEN.
PT NEWS (NEW).

263

AN 92208245. 92000.
AU Romanenko-A-E. Chumak-A-A. Bazyka-D-A. Beliaeva-N-V.
TI `Simultaneous flow cytometric analysis of cell cycle and
subpopulations of immunocompetent cells in workers participating in
the clean up of the *Chernobyl* Atomic Energy Station accident:.
SO Biull-Eksp-Biol-Med. 1991 Oct. 112(10). P 400-2.
JT BIULLETEN EKSPERIMENTALNOI BIOLOGII I MEDITSINY.
PT JOURNAL-ARTICLE (ART).
AB Surface phenotype and cellular cycle of nonstimulated peripheral
blood mononuclear cells of 35 cleaner-worker with dose commitment
0.05-0.25 Gy and 12 control persons were studied by means of flow
cytometry. Differences in cellular cycle were found, they needed
further investigations. The details of the method promoting its
reproducibility are described. Author-abstract.

264

AN 92205974. 92000.
AU Perederii-V-G. Bychkova-N-G. Fomina-A-A. Loginov-A-S. Trach-E-N.
TI `The characteristics of the clinical course of digestive organ
diseases in persons subjected to ionizing radiation exposure
resulting from the accident at the *Chernobyl* Atomic Electric Power
Station:.
SO Vrach-Delo. 1991 Oct. (10). P 65-8.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).

AB Results of a study of 1905 persons are reported. Of them 1775 showed diseases of the digestive organs. Among them were 275 who were subjected to the effect of ionizing radiation. In these 275 patients the most frequent pathology were erosive lesions of the gastric and duodenal mucosa, gastroesophageal reflux, esophagitis. There was a dependence of the onset of the disease and stay in the disaster Zone. The disease was accompanied by a stable T-cellular immunodeficiency that exacerbated the course of the disease. It is recommended to include immunocorrectors in the complex therapy of these diseases. Author-abstract.

265

AN 92205580. 92000.

AU Selidovkin-G-D. Baranov-A-E. Pushkareva-S-G. Evseeva-L-V.
Gordeeva-A-A. Gorbunova-N-V.

TI `A short review of the transplantation of hemopoietic tissues in the treatment of the victims of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Ter-Ark. 1991. 63(12). P 83-5.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB 14 Refs.

266

AN 92204781. 92000.

AU Mocan-H. Aydemir-V. Bozkaya-H. Mocan-M-Z. Ozbay-G.

IN Department of Paediatrics, Faculty of Medicine, Black Sea (Karadeniz) Technical University, Trabzon, Turkey.

TI Incidence of neural tube defects (NTD) in Ankara, Turkey, prior to and after the *Chernobyl* disaster.

SO Paediatr-Perinat-Epidemiol. 1992 Jan. 6(1). P 111-4.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

267

AN 92201611. 92000.

AU Ivanov-A-A. Nevinnaia-A-P. Gutsenko-K-K. Belchenko-A-N.

Kalinin-N-L. Maltsev-V-N. Shalnova-G-A. Ulanova-A-M. Kuzmina-T-D.
Isichenko-I-B.

TI `Short- and long-term immune status in people after radiation injury as a result of the accident at the *Chernobyl* Nuclear Power Station:.

SO Gematol-Transfuziol. 1991 Dec. 36(12). P 20-2.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Humoral and cellular factors of the immune system of 133 subjects injured in the *Chernobyl* accident were studied during first 1.5-2 months after radiation, 5-17 months and 3 years after they suffered acute radiation sickness (I-IV degree). Significant disorders in the immune system correlating with the severity of the disease were recorded. In late terms certain shifts persisted in the immune

status of subjects who had suffered acute radiation sickness, II and III degree. Author-abstract.

268

AN 92201610. 92000.

AU Domracheva-E-V. Klevezal-G-A. Nechai-V-V. Gaponovich-V-I.

Selezhenkov-V-A. Mordvintsev-V-N. Sukhovskaia-L-I.

Voevodskaia-R-A. Vanin-A-F. Khangulov-V-A.

TI `Individual doses of radiation estimated by two methods of biological dosimetry in residents of the *Chernobyl* region and in participants of liquidation of the emergency:.

SO Gematol-Transfuziol. 1991 Dec. 36(12). P 18-20.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

269

AN 92197014. 92000.

AU Vozianov-A-F. Drannik-G-N. Petrovskaia-I-A. Musii-MIa.

TI `Immunity disorders and the increased fatigability syndrome in the residents of the city of Kiev:.

SO Vrach-Delo. 1991 Nov. (11). P 14-7.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB A clinical and immunological study is presented of 1030 practically healthy persons inhabiting Kiev from the moment of the *Chernobyl* accident. It was established clinically that during the last 5 years more frequent became acute respiratory viral infections, exacerbation of existing infection foci, appearance of complaints of reduced working capacity, somnolence apathy, increased fatiguability, worsening of memory, periodic subfebrility and oth. This symptom complex was determined as the "increased fatiguability syndrome". It was characterized immunologically by different changes showing most frequently a reduction of the functional activity of natural killers. The authors analyze different variants of immunological disorders in this group of subjects and give practical recommendations on using immunotropic drugs. They emphasize the importance of a service of clinical immunology in Ukraine able to organize special services to the population. Author-abstract.

270

AN 92192517. 92000.

AU Roshchin-S-I. Buvalaia-L-V. Bondarenko-G-A. Iurchenko-M-N.

TI `Reflexotherapy in the complex correction of psychosomatic disorders in patients--participants in emergency work at the *Chernobyl* nuclear power plant:.

SO Gig-Tr-Prof-Zabol. 1991. (10). P 1-3.

JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIIA.

PT JOURNAL-ARTICLE (ART).

AB The article contains an analysis of current medical techniques in the reflexotherapy (acupuncture in combination with needle application

therapy) of the psychosomatic syndrome in 96 patients who had participated in the *Chernobyl* disaster control. The contributors worked out a set of biologically active points and areas, and described the peculiarities of the acupuncture therapeutic effects. Author-abstract.

271

AN 92192442. 92000.

AU Domracheva-E-V. Kuznetsov-S-A. Shklovskii-Kordi-N-E. Vorobev-A-I.
TI `Cells with numerous chromosomal aberrations detected in inhabitants of the *Chernobyl* region:.

SO Gematol-Transfuziol. 1991 Nov. 36(11). P 36-7.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

272

AN 92180217. 92000.

AU Pilinskaia-M-A. Shemetun-A-M. Redko-D-V. Shepelev-S-E.

TI `Dynamics of the cytogenetic effect in re-examined individuals who have participated in eliminating the emergency at the *Chernobyl* Atomic Power Plant in various periods after irradiation:.

SO Tsitol-Genet. 1991 Sep-Oct. 25(5). P 3-9.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The repeat cytogenetic examination of 22 persons who were exposed to acute radiation while eliminating emergency at the *Chernobyl* Atomic Power Plant has revealed interindividual variability in the rate of elimination of radiation-induced chromosome mutations. The data obtained have confirmed complexity to reconstruct individual radiation doses by the results of cytogenetic analysis carried out 1-3 years after the ionizing radiation effect. Author-abstract.

273

AN 92180207. 92000.

AU Pilinskaia-M-A. Shemetun-A-M. Ereemeeva-M-N. Redko-D-V.
Fedorenko-V-G. Shepelev-S-E.

TI `The cytogenetic effect in the peripheral blood lymphocytes of persons with a history of acute radiation sickness as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Tsitol-Genet. 1991 Jul-Aug. 25(4). P 17-21.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB The results of cytogenetic examination of 51 patients with acute radiation disease caused by *Chernobyl* accident show interindividual variability in frequency and spectrum of chromosome aberrations in men with the same diagnosis, who were first examined 9-38 months after the accident. It is shown that possibility to reveal a cytogenetic marker of radiation exposure grows up in cases with severe disease. Author-abstract.

274

AN 92177735. 92000.

AU Liubchenko-P-N. Bozhenko-V-K. Maslennikova-V-G. Karaseva-T-P.
Dubinina-E-B.

TI `Hematologic indices in participants in the liquidation of the
consequences of the accident at the *Chernobyl* Nuclear Power Station
3 years following their work in *Chernobyl*.*

SO Lab-Delo. 1991. (8). P 47-51.

JT LABORATORNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Blood analysis with the use of automated analyzer H-1 (Technicon),
carried out in 31 subjects who were engaged in liquidation of the
power plant accident aftereffects 3 years following their work at the
station, has revealed elevated red cell counts, elevated counts of
peripheral blood large nondifferentiated cells, dose-dependent
increase of neutrophil count, reduced counts of lymphocytes and
basophils, enlarged nuclear size in mononuclears and reduced optic
density of these cells. Author-abstract.

275

AN 92171777. 92000.

AU Shashlov-S-V. Vlasov-P-A.

TI `Morphologic characteristics of the myocardium of people dying after
the *Chernobyl* Nuclear Power Station accident:.

SO Arkh-Patol. 1991. 53(10). P 45-8.

JT ARKHIV PATOLOGII.

PT JOURNAL-ARTICLE (ART).

AB Two types of histological changes were found in the myocardium of 27
persons who died after the accident at *Chernobyl* atomic station:
small foci of lesions (contractures, myocytolysis, fragmentation) and
pathology, associated with vascular disturbances (venous hyperemia,
stasis, sludge-phenomenon, interstitial oedema, haemorrhages) typical
for all cases. 6 persons had small-focal myocardial infarction, foci
of infection were found in 3 cases. Small foci of lesions in the
myocardium might produce disturbances of the heart rhythm revealed
clinically. Author-abstract.

276

AN 92170134. 92000.

AU Kindzelskii-L-P. Zinchenko-V-A.

TI `The intravital detection of spontaneously incorporated radionuclides
in the human body:.

SO Vrach-Delo. 1991 Dec. (12). P 48-51.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB A trial has been done for the first time to use historadiography for
detection of spontaneously incorporated radionuclides in the body of
persons who participated in liquidation of the *Chernobyl* atomic
station disaster. The effect of incorporated radiation on the
gastric mucosa, blood and bone marrow was studied. 88% of patients

showed different degrees of accumulation of radionuclides in mucosal epithelium and submucosal layer of the stomach. Author-abstract.

277

AN 92170113. 92000.

AU Knizhnikov-V-A. Komleva-V-A. Tutelian-V-A. Novoselova-G-P.
Golubkina-N-A. Trushina-E-N. Kumpulainen-I. Edelman-K.

TI `The effect of an increased dietary intake of organic selenium on the resistance of rats to ionizing radiation, aflatoxin B1 and infection:.

SO Vopr-Pitan. 1991 Jul-Aug. (4). P 52-5.

JT VOPROSY PITANIIA.

PT JOURNAL-ARTICLE (ART).

AB Varying concentrations of the selenium biological compound "Selena" were tested in animals subjected to the action of extremal factors simulating those that affected the population at the territories radiocontaminated as a result of the catastrophe at the *Chernobyl* NPS (131I and external irradiation in falling down doses). The death rate in the group of animals that were not given "Selena" comprised 30% during 6 months after irradiation, their body mass was 120 g lower as compared to the animals in the group of biological control; among the animals given 0.03 mg of selenium/day the death rate was 4 times lower. Author-abstract.

278

AN 92167206. 92000.

AU Vinten-G.

IN Luton College of Higher Education.

TI On dissipating the *Chernobyl* blues.

SO J-R-Soc-Health. 1991 Dec. 111(6). P 229-35.

JT JOURNAL OF THE ROYAL SOCIETY OF HEALTH.

PT JOURNAL-ARTICLE (ART).

279

AN 92167151. 92000.

AU Koga-T. Morishima-H. Niwa-T. Kawai-H.

IN Atomic Energy Research Institute, Kinki University, Osaka, Japan.

TI Tritium precipitation in European cities and in Osaka, Japan owing to the *Chernobyl* nuclear accident.

SO J-Radiat-Res (Tokyo). 1991 Sep. 32(3). P 267-76.

JT JOURNAL OF RADIATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB Tritium precipitations in European cities and in Osaka, Japan were analyzed before and after the *Chernobyl* nuclear plant accident by the time series analysis code Census IIX11 developed by US Department of Commerce Bureau of the Census. Results of this analysis showed no significant tritium precipitation was produced by the accident although marked amounts of other radioactive nuclides were detected in Europe and Japan immediately after the accident. Author-abstract.

280

AN 92160099. 92000.

AU Selidovkin-G-D. Baranov-A-E. Evseeva-L-V. Pushkareva-S-G.

TI `The principles of and some experience with component therapy in acute radiation sickness:.

SO Ter-Ark. 1991. 63(7). P 58-60.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

AB The previous experience gained with the treatment of acute radiation sickness supported during the treatment of the victims to the disaster at the *Chernobyl* NPP has shown the multimodality treatment to be indispensable for the bone marrow syndrome, particularly in terms of correcting postradiation thrombocytopenia and counteracting bleeding sickness. The use of the whole blood was found to be inadvisable because of the low efficacy, with the risk of transfusion complications being fairly high. Adequate replacement therapy with donor's platelets is capable of a complete modifying of the hemorrhagic syndrome. Author-abstract.

281

AN 92160095. 92000.

AU Gurinovich-G-P. Okeanov-A-E. Gurinovich-I-F. Ivanovskaia-M-I. Shishporenok-S-I.

TI `The use of porphyrins for assessing the effect of low doses of ionizing radiation on the human body:.

SO Ter-Ark. 1991. 63(7). P 47-9.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

AB Data on porphyrin metabolism disturbances under the action of ionizing radiation on the human body are presented. The studies are based on estimating the quantitative content of coproporphyrin in the diurnal urine diuresis of persons irradiated as a result of the *Chernobyl* accident. The results of examining the population of a number of the zones of close control in Mogilev and Gomel Provinces are considered. Unlike the presumably healthy subjects, many people of this group show a significant decrease of porphyrin excretion with urine. The discovered sensitivity to the action of radiation is individual. A preliminary estimation of the porphyrin test depending on the degree of morphological changes in the gastric mucosa was made during an all-round clinical examination of the irradiated subjects. Author-abstract.

282

AN 92158529. 92000.

AU Koshel-I-V. Kurmashov-V-I.

TI `General evaluation of the status of children evacuated from high radiation areas by the end of the 3d week after the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 83-4.

PT JOURNAL-ARTICLE (ART).

283

AN 92158528. 92000.

AU Stepanova-E-I. Chaialo-P-P. Kolpakov-I-E. Kondrashova-V-G.
Kurilo-L-V. Galichanskaia-TIa. Fediakova-O-B. Ivaniuk-A-G.

TI `Effects of the consequences of the *Chernobyl* accident on the child's
body:.

SO Pediatriia. 1991. (12). P 8-13.

PT JOURNAL-ARTICLE (ART).

AB Overall 1580 children from the regions with unsafe radiation
situation were examined comprehensively at different times after the
accident. The data obtained were correlated to the results of
examining 610 children of the control group. The basic group
children manifested a higher incidence of diverse alterations on the
part of many organs and systems, which was accompanied by an increase
of free radical processes signs of destabilization of cellular
membranes, activation of blood cell metabolism, suppression of the T
cell component of immunity in the presence of vegetovascular
dysfunction. A tendency was noted toward normalization of these
alterations seen over time after the accident. No clear-cut
dose-effect dependence was found. Author-abstract.

284

AN 92158523. 92000.

AU Vorontsov-I-M. Chasnyk-V-G. Arkhangel'skaia-T-B. Bulycheva-V-I.
Petrovtseva-V-L.

TI `Experience in ambulatory care of children who arrived from the
regions exposed to radionuclide pollution after the *Chernobyl* AES
accident:.

SO Pediatriia. 1991. (12). P 59-61.

PT JOURNAL-ARTICLE (ART).

285

AN 92158520. 92000.

AU Shchepliagina-L-A.

TI `Medical-organizational measures for health care of children exposed
to radiation as the consequence of the *Chernobyl* AES accident
(editorial):.

SO Pediatriia. 1991. (12). P 5-8.

PT EDITORIAL (EDI).

286

AN 92158514. 92000.

AU Iureva-E-A. Baleva-L-S. Alekseeva-N-V. Vozdvizhenskaia-E-S.
Atroshenko-L-I.

TI `Changes in metabolic processes in children from the regions which
were affected by the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 29-33.

PT JOURNAL-ARTICLE (ART).

287

AN 92158513. 92000.

AU Cheban-A-K. Dekhtiareva-O-S. Kopylova-O-V. Chumak-A-A.

Afanasev-D-E. Taranenko-M-G. Avramenko-N-L.

TI `Clinical-immunological characteristics of the state of the thyroid gland in children exposed to ionizing radiation because of the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 26-9.

PT JOURNAL-ARTICLE (ART).

AB Overall 806 children evacuated from the city of Pripyat were examined for the thyroid condition. The children who received a dose of more than 30 rad for the thyroid manifested primary response in the form of euthyroid hyperthyroxinemia, a high risk of the development in future of autoimmune diseases in the lack of hypothyrosis. Author-abstract.

288

AN 92158512. 92000.

AU Torubarova-D-A. Kovalev-G-I.

TI `Peripheral blood of children exposed to radiation as a consequence of the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 21-6.

PT JOURNAL-ARTICLE (ART).

AB As many as 103 children exposed to minor doses of radiation after the *Chernobyl* accident were examined for peripheral blood morphology. Statistical and individual analysis did not reveal any pathological alterations on the part of the hemograms of the radiated children. At the same time they manifested certain deviations in the form of leukopenia, lymphopenia and neutropenia, suggesting the action produced by radiation factor. On the whole, these alterations were characterized as adaptation ones of multifactorial genesis. The data obtained support an assumption that the changes in the quantitative composition of blood exposed to radiation in the doses not exceeding the maximal permissible limits were not remarkable, occurring within the physiological boundaries and could be detected only during observations made over time. Emphasis is laid on the necessity of further monitoring of the hemopoietic system of the radiated children according to the current principles of dispensary observation. Author-abstract.

289

AN 92158511. 92000.

AU Bebeshko-V-G. Chumak-A-A. Bruslova-E-M. Talko-V-V. Minchenko-ZhN.

Bazyka-D-A. Tsvetkova-N-M. Bezpalkenko-A-G. Dzhurinskaia-E-N.

TI `Assessment of the immunohematological status of children exposed to low doses of ionizing radiation in the early and late periods after the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 16-20.

PT JOURNAL-ARTICLE (ART).

AB The qualitative and quantitative parameters of hemopoiesis and immunocompetent cells were studied in 365 children in the early "iodine" and long-term periods after the accident. In accordance with primary response, a group consisting of 28 subjects with so-called "radiation injury" was distinguished. The early period was marked by unusual qualitative and quantitative hematological changes which, however, did not lead to the development of the hematological syndrome characteristic of acute radiation injury. Certain deviations that corresponded to somatic pathology were detectable at the late periods after the accident. Author-abstract.

290

AN 92158510. 92000.

AU Koshel-I-V. Rumiantsev-A-G.

TI `Health status of children exposed to low doses of radiation 1 year after the *Chernobyl* AES accident:.

SO Pediatriia. 1991. (12). P 13-6.

PT JOURNAL-ARTICLE (ART).

AB The authors provide data on the health status of children living in radiation polluted regions, obtained 9-11 months after the *Chernobyl* accident. Study of the demographic characteristics, distribution into health groups and of the hematological parameters did not reveal any significant differences with the exception of a higher anemia incidence (in children under 1 year). Author-abstract.

291

AN 92158445. 92000.

AU Koch-H-C. Burmeister-W. Knopp-R. Niesen-M. Georgakopoulou-A. Kramer-A. Halfmann-K. Hartmann-C. Lentze-M-J.

IN Department of Pediatrics, University of Bonn, Germany.

TI Whole-body cesium 137 activity up to 4 years after the *Chernobyl* reactor accident in premature newborns, newborns, infants, and children.

SO Pediatrics. 1992 Mar. 89(3). P 407-10.

JT PEDIATRICS.

PT JOURNAL-ARTICLE (ART).

AB Cesium 137 activity was measured after the *Chernobyl* incident in a whole-body radiation counter (4-pi-scintillation counter) in 85 premature and mature newborns (group 1), 174 infants and young children up to 2 11/12 years (group 2), and 48 children between 3 and 8 years (group 3) from Bonn (Germany) and surroundings. In 1987 the mean level of radioactivity in group 2, at 3.7 Bq/kg body weight corresponding to a mean radiation exposure of 11 muSv/y, was lower than that of group 1 (5.8 Bq/kg, 17 muSv/y) and 3 (9.4 Bq/kg, 28 muSv/y). Up to 1990 the values of all groups revealed a continuous decrease. The latest measurements showed mean values of 0.5 Bq/kg (1.5 muSv/y) in group 1, 0.6 Bq/kg (1.8 muSv/y) in group 2, and 0.8 Bq/kg (2.4 muSv/y) in group 3. A comparison with present cesium 137 values and determinations of the end of the 1950s and beginning of 1960s, both in adults, showed good agreement. The effective

dose-equivalent rates amounted to less than 1% of that from natural radiation exposure. These levels should present no teratogenic risks to the population studied and, while there are theoretical mutagenic risks, the dose is so low that no increase in measurable mutagenic effects should be observed. Author-abstract.

292

AN 92157711. 92000.
AU Rich-V.
TI Bielarus: political fallout from *Chernobyl* `news:.
SO Lancet. 1992 Feb 22. 339(8791). P 484-5.
JT LANCET.
PT NEWS (NEW).

293

AN 92155456. 92000.
AU Chinkina-O-V. Torubarov-F-S.
TI `Psychological features of patients after acute radiation sickness caused by the accident at the *Chernobyl* nuclear power station:.
SO Fiziol-Cheloveka. 1991 Jul-Aug. 17(4). P 159-66.
JT FIZIOLOGIIA CHELOVEKA.
PT JOURNAL-ARTICLE (ART).

294

AN 92154261. 92000.
AU Munro-I. Brennan-M.
TI Lessons of *Chernobyl* `letter: `see comments:.
SO BMJ. 1992 Jan 25. 304(6821). P 254-5.
JT BMJ.
PT LETTER (LET).

295

AN 92151074. 92000.
AU Beresford-N-A. Howard-B-J.
IN Institute of Terrestrial Ecology, Merlewood Research Station, Grange-over-Sands, Cumbria, United Kingdom.
TI The importance of soil adhered to vegetation as a source of radionuclides ingested by grazing animals.
SO Sci-Total-Environ. 1991 Sep. 107. P 237-54.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Soil ingestion has been identified as a potentially important source of radionuclides to grazing animals. Seasonal patterns of soil adherence to vegetation and its implications for the radionuclide intake of grazing animals were measured at two west Cumbrian sites. Soil adhesion to vegetation was highly seasonal, being highest in autumn and winter. At Site 1 (a lowland pasture close to the British Nuclear Fuels plc Sellafield Reprocessing Plant, Cumbria, UK), vegetation samples were found to consist of up to 46% soil (by dry weight). Therefore, the importance of soil as a potential source of

radionuclides to grazing animals was also seasonal; soil comprised up to 92% of the ¹³⁷Cs and potentially all of the ^{239/240}Pu of vegetation samples at Site 1 and up to 62% of the ¹³⁷Cs at Site 2 (an upland farm contaminated following the *Chernobyl* accident). Analyses of sheep faecal samples confirmed the seasonal importance of soil as a potential source of radionuclides. The importance of soil adhering to vegetation, as a source of contaminant ¹³⁷Cs, increased with time after the *Chernobyl* accident. Calculations of soil ingestion must be made when the intake of radionuclides by grazing animals is being studied. In some circumstances, present radioecological models may considerably underestimate the importance of soil ingestion.

Author-abstract.

296

AN 92142540. 92000.

AU Torokhtin-M-D. Zadorozhnaia-T-A. Torokhtin-A-M. Sarkanich-A-V. Gabor-M-L.

TI `The effect of balneotherapy on the gastrointestinal hormone level of patients with digestive organ diseases subjected to small doses of radiation exposure:.

SO Vopr-Kurortol-Fizioter-Lech-Fiz-Kult. 1991 Nov-Dec. (6). P 18-21.

JT VOPROSY KURORTOLOGII, FIZIOTERAPII I LECHEBNOI FIZICHESKOI KULTURY.

PT JOURNAL-ARTICLE (ART).

AB Balneotherapy with several mineral waters at health resorts proved effective in 228 patients with GI diseases. All of them were exposed to low-dose radiation as a result of the *Chernobyl* accident. Such treatment promoted a decrease in initially elevated basal level of insulin, improved production of gastrin and C-peptide.

Author-abstract.

297

AN 92138214. 92000.

AU Jantunen-M-J. Reponen-A. Mustonen-R. Itkonen-A. Kauranen-P.

IN National Public Health Institute, Department of Environmental Hygiene and Toxicology, Kuopio, Finland.

TI Behavior of *Chernobyl* fallout radionuclides in peat combustion.

SO Health-Phys. 1992 Mar. 62(3). P 245-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The fallout from the explosion and fire at the *Chernobyl* nuclear power plant concentrated levels of up to 10 kBq ¹³⁷Cs kg⁻¹ dry weight in the fuel peat harvested during the summer of 1986 in Finland. We investigated the behavior of fallout radionuclides ¹³⁷Cs, ¹³⁴Cs, ¹⁰⁶Ru, ¹⁴⁴Ce, ¹²⁵Sb, ⁹⁵Zr, and ^{110m}Ag together with naturally occurring ²¹⁰Pb and ²²⁶Ra in the combustion of this contaminated peat in four different power plants. The elements antimony, ruthenium, lead, and cesium were enriched on the smallest particles, indicating that they were in a volatile chemical form, while cerium, zirconium, and radium were nonvolatile at the combustion temperatures. This result confirms the previous finding that ruthenium is volatile in

combustion. Although metallic ruthenium requires 2,310 degrees C to melt, some of its oxides melt and evaporate at much lower temperatures. Author-abstract.

298

AN 92137607. 92000.

AU Piatkin-E-K. Nugis-VIu. Chirkov-A-A.

TI `Analysis of chromosome aberrations and prognosis of bone marrow syndrome severity in acute radiation injuries in man:.

SO Gematol-Transfuziol. 1991 Oct. 36(10). P 21-6.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Biological dose indication using chromosomal aberrations analysis is a reliable method of diagnosing acute radiation disease and prognosing bone marrow syndrome severity. Cytogenetic methods permit one not only to estimate the mean radiation dose in the subjects exposed that is most important in case of relatively uniform irradiation, but also to reveal the non-uniformity of radiation exposure. Estimation of aberrant cells in bone marrow puncture biopsy specimens obtained from different sites of the hemopoietic tissue and analysis of chromosomal aberrations in peripheral blood lymphocyte cultures can be used for this purpose. Materials including those obtained at the *Chernobyl* accident were analyzed with the use of the above methods, their advantages and shortcomings are considered, and equations of dose-response curves are presented. Author-abstract.

299

AN 92129823. 92000.

AU Malone-J. Unger-J. Delange-F. Lagasse-R. Dumont-J-E.

IN Department of Medical Physics and Bioengineering, St. James's Hospital, Dublin, Ireland.

TI Thyroid consequences of *Chernobyl* accident in the countries of the European Community.

SO J-Endocrinol-Invest. 1991 Sep. 14(8). P 701-17.

JT JOURNAL OF ENDOCRINOLOGICAL INVESTIGATION.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB 84 Refs.

300

AN 92129177. 92000.

AU Holm-E. Roos-P. Skwarzec-B.

IN Department of Radiation Physics, Lund University, Sweden.

TI Radioanalytical studies of fallout ⁶³Ni.

SO Int-J-Rad-Appl-Instrum `A:. 1992 Jan-Feb. 43(1-2). P 371-6.

JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART A, APPLIED RADIATION AND ISOTOPES.

PT JOURNAL-ARTICLE (ART).

AB Fallout of Nickel-63 (T_{1/2} = 100 a) produced in small amounts at nuclear weapon tests following the neutron activation of weapon

construction material was investigated by studying carpets of lichen collected during 1961 to 1988 at the Lake Rogen district in central Sweden (62.3 degrees N, 12.4 degrees E). The maximal level of ^{63}Ni in the lichen carpet, which occurred in 1964, was about 0.6 Bq kg^{-1} , dry weight, and decreased to 0.1 Bq kg^{-1} in 1988. The deposition pattern for ^{63}Ni was similar to other fallout radionuclides such as ^{137}Cs , ^{90}Sr and $^{239} + ^{240}\text{Pu}$. The concentrations of stable Ni were relatively constant at 0.5 to $1.0 \text{ microgram g}^{-1}$ throughout the years resulting in, for example, a specific activity ($^{63}\text{Ni}/\text{stable Ni}$) of 0.5 Bq mg^{-1} in 1964 and 0.1 Bq mg^{-1} in 1988. The total area content of ^{63}Ni was estimated to be 1.0 Bq m^{-2} and the activity ratio $^{63}\text{Ni}/^{60}\text{Co}$ was estimated to be 0.03 in 1966. The *Chernobyl* accident in April 1986 did not significantly increase the levels of ^{63}Ni . For the measurement of these extremely low-levels of ^{63}Ni , 200 g of dry material (about 1 kg fresh) were ashed and leached with aqua regia after hydroxides had been precipitated with ammonia, leaving Ni in the aqueous phase. Nickel was extracted as a dimethylglyoxime complex by chloroform and back-extracted with HCl. Finally, Ni was electroplated onto copper discs from an ammonium sulfate medium at high pH. The radiochemical yield was determined by atomic absorption spectrometry of stable Ni before and after electrodeposition.(ABSTRACT TRUNCATED AT 250 WORDS).
Author-abstract.

301

AN 92129173. 92000.

AU Cooper-E-L. Valkovic-V. Strachnov-V. Dekner-R. Danesi-P-R.

IN International Atomic Energy Agency, Agency's Laboratories,
Seibersdorf, Austria.

TI Results of the intercalibration study of laboratories involved in
assessing the environmental consequences of the *Chernobyl* accident.

SO Int-J-Rad-Appl-Instrum `A:. 1992 Jan-Feb. 43(1-2). P 149-60.

JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION.
PART A, APPLIED RADIATION AND ISOTOPES.

PT JOURNAL-ARTICLE (ART).

AB Within the framework of the International *Chernobyl* Project, the IAEA's Seibersdorf Laboratories organized an intercalibration exercise among some of the laboratories which were involved in assessing the environmental contamination in the USSR due to the accident. The objective was to assess the reliability of the radioanalytical data for food and environmental samples, which were used to assess the doses. In the initial study reference materials from the stocks of the IAEA's Analytical Quality Control Services (AQCS) were re-labelled and submitted to 71 laboratories as blind samples. These natural matrix materials included samples of milk (containing 2 different levels of radioactivity), soil, air filters and clover. The concentrations of radionuclides in these samples were known from previous intercalibration exercises. The overall range in performance was broad, which is similar to what has been observed in previous international intercomparisons. The results

obtained by gamma-ray spectrometry tended to be somewhat underestimated, on average. On the other hand, the laboratories showed an overall tendency to overestimate ^{90}Sr and possibly ^{239}Pu , which were analysed radiochemically. The intercalibration exercise is continuing with nine materials, including: soil, grass, hay and milk powder contaminated with fallout from the *Chernobyl* accident. These materials, which were prepared by laboratories in the USSR, are now being tested by AQCS prior to future intercomparison exercises. Work with these materials is expected to continue for several years.
Author-abstract.

302

AN 92120618. 92000.
AU Harder-U.
TI *`Chernobyl*: the sequelae cannot be eliminated, only lessened:.
SO Fortschr-Med. 1991 Nov 20. 109(33). P 101-2, 104.
JT FORTSCHRITTE DER MEDIZIN.
PT JOURNAL-ARTICLE (ART).

303

AN 92116626. 92000.
AU Romanenko-A-E.
TI `Results of the implementation of the program C.27 and priority trends of further research in the elimination of medical sequelae of the *Chernobyl* AES accident:.
SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 9-13.
JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

304

AN 92116620. 92000.
AU Antonov-V-P.
TI *`Chernobyl*: psychosocial aspects of medical consequences:.
SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 49-50.
JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

305

AN 92116619. 92000.
AU Umovist-N-M. Zhaboedov-G-D. Niagu-A-I. Novitskii-A-N. Davidenko-F-F.
TI `State of the organ of vision in persons exposed to radiation in connection with the *Chernobyl* AES accident:.
SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 48.
JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.
PT JOURNAL-ARTICLE (ART).

306

AN 92116618. 92000.
AU Chumak-A-A. Bazyka-D-A. Talko-V-V. Minchenko-ZhN. Niagu-A-I.

Savran-A-V. Dmitrenko-E-A. Beliaeva-N-V.

TI `Immunological indicators in the workers of the 30-kilometer zone of the *Chernobyl* AES:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 46-7.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

307

AN 92116612. 92000.

AU Buzunov-V-A.

TI `Main results and goals of epidemiological studies of medical consequences of the *Chernobyl* AES accident (results of a 4-year follow-up):.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 36-8.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

308

AN 92116611. 92000.

AU Tsyb-A-F. Ivanov-V-K. Airapetov-S-A. Gagin-E-A. Maksutov-M-A. Rozhkov-O-V. Stadnik-O-E. Chekin-SIu. Saakian-A-K.

TI `Radiation-epidemiologic analysis of the data of State Registry of persons exposed to radiation due to the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 32-6.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

309

AN 92116610. 92000.

AU Niagu-A-I.

TI `Psychoneurological and psychological aspects of the consequences of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 31-2.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

310

AN 92116609. 92000.

TI `The field session of the USSR AMS Presidium on the results of the implementation of the complex specialized scientific-technical program in the area of medicine in the liquidation of the consequences of the *Chernobyl* AES accident in 1986-1990 and prospects of further studies in radiation medicine:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 3-5.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

311

AN 92116608. 92000.

AU Khomaziuk-I-N.

TI `Health status of persons who participated in the elimination of consequences of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 29-31.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

312

AN 92116607. 92000.

AU Cheban-A-K. Dekhtiareva-O-S. Kopylova-O-V. Gridko-A-N.

TI `Realization of stochastic and nonstochastic effects of thyroid gland irradiation in the course of 5 years after the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 28-9.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

313

AN 92116605. 92000.

AU Astakhova-L-N. Demidchuk-E-P. Davydova-E-V. Arinchin-A-N.

Gres-N-A. Zelenko-S-M. Drozd-V-M. Poliakova-T-I. Dardynskaia-I-V. Bazylchik-S-V. et al.

TI `Health status of Byelorussian children and adolescents exposed to radiation as consequence of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 25-7.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

314

AN 92116604. 92000.

AU Stepanova-E-I. Kolpakov-I-E. Kondrashova-V-G. Kurilo-L-V.

TI `Dynamics of functional changes in the body of children in the period after the *Chernobyl* disaster:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 24-5.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

315

AN 92116602. 92000.

AU Lukianova-E-M. Kolomiitseva-A-G. Iakovlev-A-A. Dashkevich-V-E. Didenko-L-V.

TI `Evaluation of the health status of pregnant women and newborn infants exposed to radiation as consequence of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 20-2.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART).

316

AN 92116600. 92000.

AU Bebesheko-V-G. Kovalenko-A-N. Chumak-A-A. Bruslova-E-M.

Klimenko-V-I. Iakimenko-D-M. Sushko-V-A.

TI `Clinical aspects of consequences of the *Chernobyl* AES accident during 1986-1990 (main trends of scientific studies):.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 14-8.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

317

AN 92115832. 92000.

AU Shvydko-N-S. Ivanova-N-P.

TI `The levels of soil pollution with plutonium isotopes in the Bryansk Oblast (following the accident at the *Chernobyl* Atomic Electric Power Station):.

SO Radiobiologiya. 1991 Nov-Dec. 31(6). P 794-7.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB The estimates of plutonium concentration in soils of Western regions of Bryansk (Krasnogorsky, Novozybkovsky, Zlynkovsky and Klintsovsky) are presented. The levels of soil contamination with plutonium within the regions examined vary by 4-5 times, although no definite geographical direction of pollution intensity within the territory examined is noted. The cumulative concentration of isotopes (^{238}Pu , ^{239}Pu , and ^{240}Pu) varies within 21-112 Bq/kg. Author-abstract.

318

AN 92115831. 92000.

AU Medvedev-ZhA.

IN Genetics Division, National Institute for Medical Research, Mill Hill, London.

TI *`Chernobyl* radionuclides outside the boundaries of the USSR. The European continent:.

SO Radiobiologiya. 1991 Nov-Dec. 31(6). P 771-93.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB The reports on radiation sequels of *Chernobyl* disaster outside the country are scanty in the USSR. The present paper meets the lack, reporting the scale and the nature of the radioactive fall-outs outside the USSR. The analysis is made of possible radiological consequences of such fall-outs and the preventive measures taken by the governments of some European countries. Author-abstract. 49 Refs.

319

AN 92103344. 92000.

AU Darby-S-C. Reeves-G-K.

TI Lessons of *Chernobyl* `editorial:.

SO BMJ. 1991 Nov 30. 303(6814). P 1347-8.

JT BMJ.

PT EDITORIAL (EDI).

320

AN 92101535. 92000.
AU Murashov-B-F. Korolev-V-I. Feigin-L-G.
TI `Dosage loads on the bone marrow in exposure to ionizing radiation:.
SO Vrach-Delo. 1991 Sep. (9). P 64-7.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).
AB The authors made calculations of the expected dose loads on the bone marrow in the population of several regions due to the disaster release of radionuclides at the *Chernobyl* Atomic Station as well as in professional groups subjected to ionizing radiation, in particular, those working with radium light-compounds of permanent effect. The dose loads were largest in the population of the Byelorussian ecological region. Persons working in conditions of ionizing radiation showed a functional insufficiency of hemopoiesis in correspondence with the doses but there was no synchronicity in the responses of the bone marrow and peripheral blood.
Author-abstract.

321

AN 92101434. 92000.
AU Kolos-I-V. Nazarenko-IuV. Vakhov-V-P.
TI `Mental disorders in officials of the law-and-order service working in the area of the accident at the *Chernobyl* Atomic Electric Power Station:.
SO Voen-Med-Zh. 1991 Sep. (9). P 33-6.
JT VOENNO-MEDITSINSKII ZHURNAL.
PT JOURNAL-ARTICLE (ART).

322

AN 92099942. 92000.
AU Behar-A. Cohen-Boulakia-F. Othmani-S. Sene-M.
IN Departement de Biophysique Broussais Hotel-Dieu, Universite de Paris VI.
TI *Chernobyl,* four years on.
SO Med-War. 1991 Jul-Sep. 7(3). P 200-14.
JT MEDICINE AND WAR.
PT JOURNAL-ARTICLE (ART).
AB It is still too soon to make a full assessment of the *Chernobyl* disaster, but one should be begun, and practical inferences, with particular reference to the prevention of radiation-induced cancers, may be drawn. Author-abstract.

323

AN 92099941. 92000.
AU Oliver-D-W.
IN University of Birmingham Medical School, UK.
TI The medical effects of postulated accidental release of radioactive material from Heysham Nuclear Power Station.
SO Med-War. 1991 Jul-Sep. 7(3). P 185-99.

JT MEDICINE AND WAR.

PT JOURNAL-ARTICLE (ART).

AB The effects of a postulated reactor accident at one of the four AGRs at Heysham, NW England, have been studied, assuming a 10% release of the radioactive core. Methods used are a computer program TIRION, analysis of the radiation doses from the *Chernobyl* release of 1986 and the Windscale fire of 1957. Fatal cases predicted are 200 on-site, 3000 within 30 km and 250,000 in the cloud paths over Northern England. The results would suggest the incidence of fatal cancer would increase from roughly 20% to 27% in the postulated exposed population of 3.6 million. Author-abstract.

324

AN 92092889. 92000.

AU Zhdanova-N-N. Vasilevskaia-A-I. Artysheva-L-V. Gavriliuk-V-I. Lashko-T-N. Sadovnikov-IuS.

TI `Complexes of soil micromycetes in the area of the influence of the *Chernobyl* Atomic Electric Power Station:.

SO Mikrobiol-Zh. 1991 Jul-Aug. 53(4). P 3-9.

JT MIKROBIOLOGICHESKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB Complexes of soil micromycetes in the *Chernobyl* 30-km zone of the Ukrainian Polesye were studied for 1986-1989 with regard for such ecological parameters as the level of radiation contamination, a particular observation site, depth of soil horizon and season. As a result of the study correlation pleiads of soil micromycete complexes have been revealed with their structure and fungal genera characteristic of such complexes determined. The overwhelming majority of correlation pleiads of fungal complexes are attributed to complex-organized ones and this indicated high radioresistance of mycobiota in the studied, soils. Melanine-containing genera of fungi rank among the first in formation of correlation pleiads of soil micromycete complexes. Author-abstract.

325

AN 92090675. 92000.

AU Akleev-A-V. Kosenko-M-M.

TI `Quantitative, functional and cytogenetic characteristics of lymphocytes and various indicators of immunity in persons participating in the decontamination work at the *Chernobyl* nuclear power plant:.

SO Gematol-Transfuziol. 1991 Aug. 36(8). P 24-6.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Immunologic and cytogenetic investigations conducted in subjects, who had been engaged in liquidation of consequences of the *Chernobyl* NPS catastrophe, during the first months after their work was finished, showed decreased content of large granulo-containing lymphocytes and serum IgM in the blood, their levels were completely recovered 3 years later. A complex of unfavourable factors attending radiation

(stress, changes in the way of life, chemical actions etc.) played an important role in the genesis of these changes. Author-abstract.

326

AN 92087594. 92000.

AU Raymond-L. Schubert-H.

IN Geneva Cancer Registry, Switzerland.

TI The *"post-Chernobyl"* childhood leukemia study (ECLIS Study).

SO Soz-Praventivmed. 1991. 36(4-5). P 304-5.

JT SOZIAL- UND PRAVENTIVMEDIZIN.

PT JOURNAL-ARTICLE (ART).

AB Numerous European cancer registries are working together to evaluate the current trends in the incidence of childhood leukemias after the *Chernobyl* accident. The study is coordinated by the International Agency for Research on Cancer. The primary objective is to establish whether the accident has resulted in an increase in the number of cases. The results will also allow an evaluation of the clusters which could be reported. According to the provisional estimations, the accident could lead to an increase of an average of 0.8% of the frequency of new cases in the European regions covered by the study. For the whole of Switzerland, this increase would correspond to 0.5 supplementary cases per year. Author-abstract.

327

AN 92087591. 92000.

AU Donath-A.

IN Division of Nuclear Medicine, University Hospital, Geneva.

TI The whole body incorporation of radioactive caesium in Switzerland during the last 30 years: a survey of young persons in Geneva and some measurements of Russian children.

SO Soz-Praventivmed. 1991. 36(4-5). P 294-6.

JT SOZIAL- UND PRAVENTIVMEDIZIN.

PT JOURNAL-ARTICLE (ART).

AB In a cross-sectional study, each year at least twenty young men and twenty young girls about 18 years old were selected, and the body concentration of Cs-137 was measured in a whole body counter. This radioisotope, with a half-life of 30 years, originates from the atom bomb explosions in the atmosphere, which were stopped in 1963, or from the accident of *Chernobyl.* The concentrations due to the emissions from this reactor remained below one third of the values due to atomic bombs. The results in children from Byelorussia who spent a few weeks in Switzerland last summer are lower than what would have been expected according to the literature from Russia, but correspond to those recently obtained in situ by international scientific teams. Author-abstract.

328

AN 92087579. 92000.

AU Schuler-G. Gutzwiller-F.

TI `Low dose ionising radiation and cancer: findings and methods.

Report of a meeting and consequences for Switzerland (editorial):.

SO Soz-Praventivmed. 1991. 36(4-5). P 209-16.

JT SOZIAL- UND PRAVENTIVMEDIZIN.

PT EDITORIAL (EDI). MEETING-REPORT (MET).

AB Today's society is concerned about the dangers of ionising radiation, especially in the aftermath of *Chernobyl.* On the other hand, there exists a widespread lack of understanding radiation biology and radioepidemiology--the very sciences which provide the data from which today's risk estimates have been derived. The papers in this issue of the Journal were presented at a workshop on "Low level radiation and cancer: data and methods" held on 10th-11th December in Feuisberg, near Zurich. The meeting was organised by the Institute of Social and Preventive Medicine of the University of Zurich under the auspices of the Swiss Federal Office of Public Health. Its aims were threefold. First, to give an introduction to some basic facts and methodological issues in radiation physics, biology and epidemiology. Secondly, to give an overview of the availability of data for radioepidemiological research in Switzerland and, thirdly, to evaluate possible research strategies in this country. A list of some notions and units commonly used in the radiation sciences serves as an introduction to the field (G. Schuler et al.). In using units and notions it is important to distinguish the description of biological experiments and epidemiological observations from definitions and risk projections proposed by international reports and consensus bodies for radioprotection purposes. The next papers deal more specifically with selected aspects of the basic sciences. Dosimetry means quantifying the physical effects of ionizing radiation in human tissue; this is not a straight-forward procedure (I. Cordt). The foundations of general radiation biology are succinctly summarised by C. Michel. An account of our present knowledge and theories of radiation carcinogenesis is provided by W. Burkart. W Lutz compares dose-response models of chemical carcinogenesis with those used in radiation carcinogenesis. During the last decade the epidemiological foundations of radioprotection have changed considerably. Longer follow-up studies have become available from the atomic bomb survivors and from other cohorts. A new dosimetry system (DS 86) has been introduced for Hiroshima and Nagasaki. Exposure to domestic radon has become a major focus of interest. Not only the data, but also the methods of analysis and modeling of risks have evolved, as shown by the recent reports of national and international scientific committees.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

329

AN 92085803. 92000.

AU Ilin-L-A.

TI `The regulations of radiation exposure, radiation loads on the population and the medical consequences of the *Chernobyl* accident:.

SO Med-Radiol (Mosk). 1991. 36(12). P 9-18.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with analysis of strategy of the regulation of radiation exposure of the population and the practical use of the levels of intervention in different phases after the *Chernobyl* accident. The author represents data on the levels of whole-body irradiation of the population in the areas under strict control, and dose exposure of the thyroid in children and adults. Mean individual and collective doses of whole-body irradiation over the period of 1986-1989 and predictable dose exposures were assessed. Some data on probable pathology of radiation genesis in the population in affect on 1990 were considered. Author-abstract.

330

AN 92080670. 92000.

AU Pechkurenkov-V-L.

TI `The effect of the accident at the *Chernobyl* Atomic Electric Power Station in 1986 on the fish population of a cooling pond:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 704-8.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The cytogenetic analysis of *Cyprinus carpio* eyes, developing *Blicca bjoerkna* L. eggs, and eggs and larvae of *Hypophthalmichthys molitrix* Val. has demonstrated that the yield of cells with chromosome aberrations in the fish species under study is normal, while the level of variability of morphometric indices in offspring is considerably higher than that in parent fish. Author-abstract.

331

AN 92080669. 92000.

AU Afanaseva-V-V. Zak-K-P. Indyk-V-M. Serkiz-IaI. Tronko-N-D.

TI `The biological effects in animals in relation to the accident at the *Chernobyl* Atomic Electric Power Station. 11. The ultrastructure of the bone marrow cells in different generations of rats:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 694-700.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB In studying the bone marrow cell ultrastructure in male rats (F0-F2 generations) aged 3 months, which were brought up within the thirty kilometer *Chernobyl* A.P.S. disaster area, considerable submicroscopic changes have been revealed in the cells at all stages of maturation, including undifferentiated blasts and mature forms of cells of the neutrophilic, eosinophilic, monocytic and erythroid haemopoiesis series, as well as stromal elements of the microenvironment, megakaryocytes and endothelium. The severity of these changes increases, as the number of generations grows, displaying frequently a destructive character. Author-abstract.

332

AN 92080668. 92000.

AU Savtsova-Z-D. Kovbasiuk-S-A. Iudina-OIu. Zaritskaia-MIu.

Voeikova-I-M. Orlovskii-A-A. Indyk-V-M. Serkiz-IaI.

TI `The biological effects in animals in relation to the accident at the
Chernobyl Atomic Electric Power Station. 10. Cooperative immune
reactions in different generations of mice:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 687-93.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The immune status of mice has been assessed by the whole complex of
data. The permanent action of low-level radiation has been shown to
suppress considerably the rate of reactions of the delayed-type
hypersensitivity and "graft versus host" disease, as well as NK and
specific cytolytic T-lymphocyte activity. The dynamics of
accumulation and the levels of antiviral antibodies in the serum,
lung and trachea extracts are virtually invariable. The resistance
of experimental animals to influenza is lower than that of
non-irradiated mice of the same line and age. The data obtained
indicate that the immune disturbances revealed are connected not only
with the alteration of lymphoid cell populations, but also with the
alteration of the immune regulation mechanisms. Author-abstract.

333

AN 92080667. 92000.

AU Savtsova-Z-D. Kovbasiuk-S-A. Iudina-OIu. Zaritskaia-MIu.
Voeikova-I-M. Indyk-V-M. Serkiz-IaI.

TI `The biological effects in animals in relation to the accident at the
Chernobyl Atomic Electric Power Station. 9. The morphofunctional
indices of the immunocompetent organs in mice:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 679-86.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The permanent action of small doses of low-intensity radiation on the
immune status of 2.5-3.5 month CC57W mice has been investigated.
Total doses of internal and external irradiation were about few cGy.
The permanent action of low-level radiation on the experimental
animals of the first and fourth generations was shown to change
spleen and lymph nodes weights and the count of lymphocytes isolated
from these organs. Cellularity and DNA synthesis in the lymph-node
lymphocytes and their proliferative response to polyclonal mitogens
also changed. The alterations in the parameters that characterized
T-lymphocyte population were statistically significant.
Author-abstract.

334

AN 92080666. 92000.

AU Melnikov-O-F. Sambur-M-B. Indyk-V-M. Diugovskaia-L-A. Zaiats-T-A.
Serkiz-IaI. Timchenko-S-V.

TI `The biological effects in animals in relation to the accident at the
Chernobyl Atomic Electric Power Station. 8. The status of cellular
immunity in different generations of rats:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 673-8.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB In studying immunity in laboratory rats of different generations (P, F1 and F2) brought up in *Chernobyl* in 1989-1990 the authors have revealed the development of leuko- and lymphopenia; decrease in the absolute content of immunocompetent cells bearing Fc receptors to IgG; stable and long-lasting suppression of blood NK cell activity; reduction of antibody-dependent cytotoxicity; and changed ability of blood lymphocytes to interact contactly with allogenic mast cells. The most considerable disorders have been found in 6- and 9-month-old F1 rats and in 3- and 6-month-old F2 rats. Author-abstract.

335

AN 92080665. 92000.

AU Verkhogliad-I-N. Tsudzevich-B-A. Kudriashov-IuB.

TI `The biological effects in animals in relation to the accident at the *Chernobyl* Atomic Electric Power Station. 7. The content of lipid peroxidation products and free fatty acids and the catalase activity in a number of organs and tissues of rats:.

SO Radiobiologiya. 1991 Sep-Oct. 31(5). P 668-72.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB The content of malonic dialdehyde, dienic conjugates and free fatty acids, and catalase activity were determined in some organs and tissues of chronically irradiated rats. Certain regularities were found in lipid metabolism changes. The MIGI-K preparation was shown to normalize some indices under study. Author-abstract.

336

AN 92080664. 92000.

AU Indyk-V-M. Parnovskaia-N-V. Serkiz-IaI. Dragan-IuI.

TI `The biological effects in animals related to the accident at the *Chernobyl* Atomic Electric Power Station. 6. The physiological development and cytogenetic indices of the progeny of rats:.

SO Radiobiologiya. 1991 Sep-Oct. 31(5). P 663-7.

JT RADIOBIOLOGIA.

PT JOURNAL-ARTICLE (ART).

AB Certain alterations have been revealed in the postnatal ontogenesis parameters of albino mongrel rats and their descendants constantly kept within the thirty-kilometer zone of the *Chernobyl* A.P.S. Structural disturbances have been found in bone marrow cell chromosomes. Author-abstract.

337

AN 92080663. 92000.

AU Serkiz-IaI. Pinchuk-V-G. Rodionova-N-K. Pinchuk-L-B.

Goldshmid-BIa. Druzhina-N-A. Lipskaia-A-I. Pukhova-G-G.

Nikitichenko-V-V.

TI `The biological effects in animals in relation to the accident at the *Chernobyl* Atomic Electric Power Station. 5. Longevity and the carcinogenic effects:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 654-62.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Remote effects in laboratory animals living in conditions of exposure to a mixture of external and internal radiation resulted from the *Chernobyl* A.P.S. disaster have been investigated. It has been found that the rate of deaths from non-tumor illnesses grows, the incidence of neoplasms increases and their latency time decreases. The redistribution within the spectrum of benign and malignant tumors and the increase in the multiplicity coefficient have been revealed. It is concluded that chronic exposure of animals to low-level radiation from the radionuclides, resulted from the accident, brings about a much larger number of negative stochastic and nonstochastic remote effects as compared to those expected from the extrapolation of the effects produced by high radiation doses. Author-abstract.

338

AN 92080662. 92000.

AU Pinchuk-V-G. Nikitchenko-V-V. Goldshmid-BIa. Andrushchak-L-I. Serkiz-IaI.

TI `The biological effects in animals related to the accident at the *Chernobyl* Atomic Electric Power Station. 4. The morphological and ultrastructural changes in the liver of rats:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 648-53.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the morphological and ultrastructural changes in hepatic tissue of rats lived within the *Chernobyl* accident zone during the period of 6 to 25 months. Considerable nonspecific changes in hepatocytes (fatty, vacuolar and parenchymatous degeneration, and hepatocyte necrobiosis) were seen throughout the entire period of observation. Coagulation necrosis of certain hepatocytes, Kupffer and endothelial cells, and the development of microcholangiomas by the end of the second year were the most characteristic alterations. Author-abstract.

339

AN 92080661. 92000.

AU Goldshmid-BIa. Nikitchenko-V-V. Andrushchak-L-I. Pinchuk-V-G. Serkiz-IaI.

TI `The biological effects in animals in relation to the accident at the *Chernobyl* Atomic Electric Power Station. 3. The morphological and ultrastructural changes in the lungs of rats:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 642-7.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The morphological and ultrastructural changes revealed in the lungs of rats kept within the *Chernobyl* accident zone during the period of 6 to 24 months were shown to be uniform and multicomponent. The changes were found both in the respiratory and the vascular

connective tissue. The inflammatory processes occurred with formation of pneumonic foci, hypo- and disatelectasis, emphysematous changes, impairment of interalveolar septa, and connective tissue cell proliferation. In the lung tissue, focal and diffuse lymphoid proliferates and, at later stages, lymphomatous changes were revealed. Author-abstract.

340

AN 92080660. 92000.

AU Pinchuk-L-B. Serkiz-IaI. Rodionova-N-K. Pukhova-G-G.
Druzhina-N-A. Koval-G-N. Lipskaia-A-I. Maslennyi-V-N.
Malinari-S-T.

TI `The biological effects in animals related to the accident at the
Chernobyl Atomic Electric Power Station. 2. The state of bone
marrow hematopoiesis in rats:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 635-41.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB It has been shown that rats born during the first months after the
Chernobyl A.P.S. disaster exhibit essential changes in the
peripheral blood and bone marrow haemopoiesis throughout the entire
lifetime. Rats brought up in *Chernobyl* from the age of three months
on display even more pronounced changes. It is assumed that the
changes in the haemopoiesis develop due to the continuous influence
of low-level radiation of different quality and are attributed to the
effect of the incorporated radionuclides. Author-abstract.

341

AN 92080659. 92000.

AU Serkiz-IaI. Lipskaia-A-I. Pinchuk-L-B. Trishin-V-V.
Kataevskii-IuF. Koval-G-N.

TI `The biological effects in animals related to the accident at the
Chernobyl Atomic Electric Power Station. 1. The experimental model.
The radiation loads on animals kept continuously under external and
internal radiation exposure in the area of the *Chernobyl* Atomic
Electric Power Station:.

SO Radiobiologiia. 1991 Sep-Oct. 31(5). P 629-34.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Irradiation conditions in which laboratory animals were kept in
experimental laboratories of *Chernobyl* and Kiev after the accident at
the *Chernobyl* A.P.S. are described. The data are presented on the
spectral structural and activity of radionuclides in the diet as well
as in the organs and tissues of the animals. The radiation loads
have been estimated with regard to an external gamma component and
the internal one contributed by the incorporated radionuclides. It
has been shown that radiation doses received by the animals during
their lifetime due to these contributions do not exceed units of cGy.
Author-abstract.

342

AN 92079801. 92000.

AU Kidd-M-R.

IN Monash University Department of Community Medicine, East Bentleigh,
VIC.

TI The children of *Chernobyl*.

SO Med-J-Aust. 1991 Dec 2-16. 155(11-12). P 764-7.

JT MEDICAL JOURNAL OF AUSTRALIA.

PT JOURNAL-ARTICLE (ART).

AB During the past twelve months much media attention has been focused on the plight of the children affected by the *Chernobyl* nuclear disaster in the Soviet Union. The visit to Australia by several groups of these children during 1991 has heightened community interest in the innocent victims of the world's worst nuclear accident. As medical adviser for one of these visits, I saw how some of the children of *Chernobyl* benefited from their holiday away from radioactivity. Author-abstract.

343

AN 92066630. 92000.

AU Silini-G. Gouskova-A.

IN Institute of Biophysics, USSR Academy of Medical Sciences, Moscow.

TI Biological dosimetry at *Chernobyl*.

SO Prog-Clin-Biol-Res. 1991. 372. P 129-44.

JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.

PT JOURNAL-ARTICLE (ART).

344

AN 92064472. 92000.

AU Papastefanou-C. Manolopoulou-M. Stoulos-S. Ioannidou-A.

IN Nuclear Physics Department, Aristotle University of Thessaloniki,
Greece.

TI Seasonal variations of ¹³⁷Cs content of milk after the *Chernobyl* accident.

SO Health-Phys. 1991 Dec. 61(6). P 889-91.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Results are presented on monthly measurements of ¹³⁷Cs content in cows' milk over a 3-y period after the *Chernobyl* reactor accident. It was observed that, in an annual cycle of measurements, the ¹³⁷Cs concentration of milk increased between December and August, peaking in April each year, due to the dependency of the ¹³⁷Cs content of cattle feed on the fallout activity of ¹³⁷Cs. There was a consistent correlation between the ¹³⁷Cs concentration of milk and surface air. Author-abstract.

345

AN 92064464. 92000.

AU Antonopoulos-Domis-M. Clouvas-A. Gagianas-A.

IN Department of Electrical Engineering, University of Thessaloniki,

Greece.

TI Radiocesium dynamics in fruit trees following the *Chernobyl* accident.

SO Health-Phys. 1991 Dec. 61(6). P 837-42.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Contamination of fruits and leaves from various trees with ¹³⁷Cs from the *Chernobyl* accident was systematically studied from 1987 to 1990 on two farms in Northern Greece. Measured biological half-lives for ¹³⁷Cs are in good agreement with a recently presented model.

Contamination of leaves and fruits of trees planted before the accident decays exponentially with time. Contamination of trees planted after the *Chernobyl* accident was also studied.

Author-abstract.

346

AN 92064451. 92000.

AU Howard-B-J. Beresford-N-A. Hove-K.

IN Institute of Terrestrial Ecology, Merlewood Research Station, Grange-over-Sands, Cumbria, United Kingdom.

TI Transfer of radiocesium to ruminants in natural and semi-natural ecosystems and appropriate countermeasures.

SO Health-Phys. 1991 Dec. 61(6). P 715-25.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB A review of studies conducted before and after the *Chernobyl* accident is presented, showing that both the duration and the extent of radiocesium contamination of ruminants will be more severe in unimproved ecosystems compared with agricultural areas. Although such unimproved ecosystems provide comparatively small quantities of food for human consumption, the integrated dose from these areas to the human population can be large. Ecological characteristics that make unimproved ecosystems particularly vulnerable to this form of pollution include the presence of (1) soils that do not immobilize radiocesium and therefore allow its uptake into vegetation; (2) vegetation species with high uptake rates of radiocesium; (3) the predominant utilization by small ruminants which attain higher muscle radiocesium levels than cattle. Unimproved ecosystems, which often are located at high altitudes, are predisposed to receiving higher fallout because of high precipitation rates which enhance the likelihood of deposition. Countermeasures have been developed and used successfully to reduce radiocesium levels in ruminants grazing in unimproved ecosystems. Apart from decontamination by altering farming practices and providing uncontaminated feeds, sustained reductions of 50% to 80% in the radiocesium concentrations of both milk and meat have been achieved in many ruminant species when AFCF is given via a sodium chloride lick or as a sustained-release bolus. Food production in unimproved ecosystems must be evaluated separately from that of ordinary agricultural systems. In addition to detailed studies on the behavior of radiocesium, consideration should be given to the collection of aggregated transfer coefficients from various

ecosystems which were affected by *Chernobyl* fallout. By combining bioavailability estimates and aggregated transfer coefficients, based on *Chernobyl* and nuclear weapons test fallout data, it may in the future be possible to make a rapid assessment of both the immediate and the long-term impact of a future nuclear accident on food production in unimproved ecosystems. Author-abstract. 82 Refs.

347

AN 92059329. 92000.

AU Stefani-F-H. Hausmann-N. Lund-O-E.

IN Augenklinik University Munchen, Germany.

TI Unilateral diplophthalmos.

SO Am-J-Ophthalmol. 1991 Nov 15. 112(5). P 581-6.

JT AMERICAN JOURNAL OF OPHTHALMOLOGY.

PT JOURNAL-ARTICLE (ART).

AB In a child born of a full-term pregnancy, unilateral diplophthalmos without proboscis was observed along with other craniocervical abnormalities (ipsilateral temporoparietal porencephaly, supernumerary teeth, and cervical cyst). A globe almost normal in shape and size was observed within the left orbit. The upper quadrant of this globe was attached to a smaller, pear-shaped, supernumerary eye containing a small lens, normal vitreous humor, ciliary body structures, avascular retina, choroid, and a rudimentary optic disk. When a two-peaked and enlarging intraocular mass was observed clinically, the eye was enucleated because of suspected neoplasm. The enlarging prominence had been caused by the growing second globe. Our findings indicated that a single primary optic vesicle was formed (globe I with an optic fasciculus), and some unknown damage was caused when this single primary optic vesicle induced the lens formation by contacting the ectoderm. Although the conception and early embryonal life of this child had taken place during a period of increased radiation exposure caused by the explosion of the nuclear plant at *Chernobyl,* U.S.S.R., in the spring of 1986, it seemed unlikely that the abnormality could have been caused by radioactive fallout in the mountains of Austria. Author-abstract.

348

AN 92057185. 92000.

AU Ledoshchuk-B-A.

TI `National distribution registry of individuals exposed to radiation effects due to the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 9-11.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The paper deals with the problems in the case follow-up of the population exposed to radiation caused by the accident at the *Chernobyl* Atomic Power Station on the basis of the automated systems for collecting and processing medical information. A number of organizational, medical, technological, computational problems in

setting up the National Distribution Registry should be solved for a complete and long-term follow-up. A differential approach was proposed to the information provision of health care services and to the determination of a population size and principles of selecting the populations to be followed up in the Registry. Author-abstract.

349

AN 92057179. 92000.

AU Los-I-P. Komarikov-IIu. Korzun-V-N. Kovgan-L-N. Kairo-I-A. Vasilev-AIu. Stepanenko-V-N. Shevchuk-V-E.

TI `Transit of radiocesium and radiostrontium from the fallout to the soil of the Ukrainian S.S.R. due to the *Chernobyl* AES accident into plants and milk:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 50-2.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB Dietary components making a great contribution to the formation of human internal irradiation dose were defined. The values of soil-milk transition ratios that are ranging 0.3 to 41 E-9 MBq.kg-1.Bq-1.m2 have been obtained from the examination of 1300 milk specimens by radiochemical assay for 90Sr. The relationship of soil-milk and soil-plant transition ratios was examined to the type of soils and the distance from the NPP. Author-abstract.

350

AN 92057177. 92000.

AU Romanenko-A-E. Likhtarev-I-A. Shandala-N-K. Gulko-G-M. Kairo-I-A. Chepurnoi-N-I.

TI `Health-related evaluation of thyroid irradiation doses in inhabitants of the Ukrainian S.S.R. after the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 44-7.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The paper considers the radiation doses of the thyroid gland in the inhabitants from the Ukrainian SSR areas (Kiev, Zhitomir, Chernigov, and Vinnitsa Regions), which have been obtained by instrumental studies of thyroidal radioactivity in May-June, 1986, and calculated by the most conservative single-dose administration model. A hygienic evaluation has been made of the findings, taking into account the age and residence. The cumulative irradiation doses of the thyroid have been estimated for children and adults. Possible late sequelae for the areas in question may account for 1060 and 300 thyroid carcinoma cases during the whole life for children and adults, respectively. Author-abstract.

351

AN 92057176. 92000.

AU Pilinskaia-M-A. Shemetun-A-M. Bondar-AIu. Dybskii-S-S.

TI `Cytogenetic effect in somatic cells of subjects exposed to radiation

effects due to the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 40-3.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

352

AN 92057175. 92000.

AU Grigorovich-N-A.

TI `A computing laboratory-clinical system in the screening of malignant tumors: study of the state of the antioxidant system and level of cellular proliferation markers among the population from the *Chernobyl* AES accident area:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 36-40.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The author bases and describes the computing laboratory and clinical system for screening groups at a higher risk for malignant neoplasms whose incidence is likely to increase due to irradiation. Two years after the disaster the detected group at a higher risk was 2-2.4 times larger than the control group among persons who received the total irradiation dose 5 rem and over as well as among persons who are to be removed from the area polluted with radionuclides whatever the dose. As the time elapsed since the disaster increases, the number of subjects with a higher level of biomarkers also grows. It is advisable that this system be introduced in all fields of the practical health care in the polluted and control areas to carry out goal-oriented treatment and diagnostic measures in the selected population groups. Author-abstract.

353

AN 92057174. 92000.

AU Zvonova-I-A. Likhtarev-I-A. Filiushkin-I-V. Shandala-N-K. Gulko-G-M.

TI `Assessment of oncogenic risk of the irradiation of the thyroid gland in humans:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 32-6.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The paper deals with one of the most urgent aspects of irradiation hygiene, namely assessment of risk for irradiation-induced cancers of the thyroid. A model is described to predict high mortality rates of thyroidal cancer in the population due to the catastrophe at the *Chernobyl* Atomic Power Station. With the model, life-time risk rates involving sex and age at the moment of irradiation, as well as an irradiation mode. Author-abstract.

354

AN 92057173. 92000.

AU Barkhudarov-R-M. Buldakov-L-A. Gordeev-K-I. Ilin-L-A. Savkin-M-N.

TI `Characterization of irradiation levels of the population in the

controlled areas 4 years after the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 3-9.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB Based on a summary of the radiation and hygienic control data, the authors suggest empiric mathematic models depicting the dynamics of the formation of external and internal radiation doses within the first 4 years after the *Chernobyl* NPP accident. It has been established that in the areas of rigid control, the mean radiation dose amounted, within the period indicated, to 3.5 kev, that due to external radiation to 2.67 kev; the collective dose for 273,00 population living in those areas constituted 9.6 kev.

Author-abstract.

355

AN 92057172. 92000.

AU Bebesheko-V-G. Klimenko-V-I. Chumak-A-A. Bazyka-D-A. Talko-V-V. Minchenko-ZhN. Bruslova-E-M. Galkina-S-G.

TI `Clinico-immunocytological characteristics of leukemia in persons exposed to ionizing radiation effects due to the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 28-31.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB A total of 18 patients with acute leukemia from those exposed to radiation when they had liquidated the consequences of the accident at the *Chernobyl* Atomic Power Station were examined. Sixteen of them had acute myeloblast cell leukemia, one had acute lymphatic leukemia, and another one had acute promyelocytic leukemia. A complex of hematological, immunocytological, and cytochemical findings, as well as leukocytic and erythrocytic genetically determined antigen typing were used for diagnosis. Signs of severe vegetovascular dystonia was found to be followed by acute leukemia in all the patients. A relationship was established between the therapy resistance and the HLA antigen homozygosity in combination with genetically-determined low reactivity. There were no significant differences between the parameters in question and those in patients with acute leukemia who had been studied in the preaccident period. Author-abstract.

356

AN 92057170. 92000.

AU Ivanov-A-A. Shalnova-G-A. Ulanova-A-M. Kuzmina-T-D. Ignatov-A-N. Nevinnaia-A-P. Belchenko-A-N. Gutsenko-K-K. Maltsev-V-N. Muraveva-L-I.

TI `Microbiological and immunological disorders in acute radiation disease patients, victims of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 20-3.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB As many as 138 patients with acute radiation sickness, grades 0-IV,

were examined over time. It has been revealed that disorders in microecology and humoral immunity agreed well with the severity of radiation damage. Author-abstract.

357

AN 92057169. 92000.

AU Chumak-A-A. Bazyka-D-A. Talko-V-V. Minchenko-ZhN. Bezpalenko-A-G. Beliaeva-N-V. Gerasimenko-N-K. Dmitrenko-E-A. Konopleva-IuL. Nefedova-R-A. et al.

TI `Immunological aspects of the study of contingents of population exposed to ionizing radiation effects as the consequence of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 16-20.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB The immune system was examined in those who participated in the liquidation of accident sequelae at the *Chernobyl* Atomic Power Station and the population exposed to ionizing radiation. Alteration in surface antigenic markers of basic regulatory subpopulations of immunocompetent cells and metabolic changes are caused by radiation and co-existent somatic diseases. Typing for HLA antigens and proteins with a genetically determined phenotype revealed characteristic features of their distribution for the general population. Author-abstract.

358

AN 92057168. 92000.

AU Bugaev-V-N. Treskunova-T-V. Bomko-E-I.

TI `Level and pattern of morbidity of children residing in the Ukrainian S.S.R. exposed to radioactive pollution as the result of the *Chernobyl* AES accident:.

SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 12-5.

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

AB It has been shown that there is a significant increase in total morbidity in children residing in the areas exposed to radioactive pollution due to the accident at the *Chernobyl* Atomic Power Station. This is due largely to higher morbidity of respiratory disease. There is also an increased incidence of digestive diseases, iron-deficiency anemias, mental disorders. The recorded growth of childhood morbidity in the areas examined is much higher than that in the children living in other areas unexposed to radioactive pollution. Author-abstract.

359

AN 92056689. 92000.

AU Revenok-A-A.

TI `The structural-dynamic characteristics of the reactive psychoses in persons subjected to ionizing radiation exposure as a result of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1991 Aug. (8). P 83-6.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB Thirty case histories were examined of patients who participated in liquidation of sequels of the *Chernobyl* disaster or inhabiting contaminated territory during the first months after the catastrophe. Of them eleven showed reactive states accompanied by psychopathological disorders. The psychotic disorders in these subjects were simple and concrete by their clinical course, developed mainly during the first 2-4 months after the disaster when the stressogeneity was maximal. This conclusion is confirmed by the fact that of 148 persons subjected to radiation effects and treated at a Kiev Mental hospital from 1986 through 1990 reactive psychoses were observed only in 11 cases. Author-abstract.

360

AN 92054697. 92000.

AU Bentham-G.

IN School of Environmental Sciences, University of East Anglia, Norwich, England.

TI *Chernobyl* fallout and perinatal mortality in England and Wales.

SO Soc-Sci-Med. 1991. 33(4). P 429-34.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB Previous studies have concluded that radioactive fallout from *Chernobyl* may have caused an increase in perinatal mortality in West Germany and the U.S.A. The existence of marked geographical variations in contamination from *Chernobyl* in England and Wales provides an opportunity to investigate this question further by means of a geographical study. The highest doses from *Chernobyl* in England and Wales were in the counties of Cumbria, Clwyd and Gwynedd where there was heavy rainfall during the passage of the radioactive cloud. However, perinatal mortality in these areas did not rise relative to the national average in the year following *Chernobyl.* This negative finding was confirmed by a wider study of 14 counties grouped in accordance with levels of radioactive contamination of local milk. It is concluded that this study provides no evidence that radiation from *Chernobyl* caused a rise in perinatal mortality in England and Wales. Author-abstract.

361

AN 92053016. 92000.

AU Pelevina-I-I. Riabov-I-N. Riabtsev-I-A. Gulev-B-F. Gotlib-VIa. Afanasev-G-G. Vasilenko-S-N. Gumeniuk-M-L. Kozlova-L-E. Kondarov-A-A. et al.

TI `Results of experimental radiobiological studies made within the 10-kilometer zone of the *Chernobyl* AES accident:.

SO Radiobiologiya. 1991 Jul-Aug. 31(4). P 467-80.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the effect of high radioactive contamination on the animal organism (C57BL/6 mice) and HeLa cell culture within the ten-kilometer zone of the *Chernobyl* A.P.S. accident. The total radiation dose, as calculated by a gamma-component, was 0.09 to 2 Gy. A long-term exposure of mice within the zone (cumulative dose of 1.8 to 2 Gy) caused a significant decrease in bone marrow stem potencies and changes in the brain vascular system; subsequent acute exposure of animals increased interferon titres in the serum to a much greater extent than a single acute exposure did. As to HeLa cells, irradiation there of with doses of 0.09 to 0.4 Gy during 15-20 postirradiation generations caused a decrease in the proliferative activity, an emergence of cells with micronuclei and of giant cells, and remote cell death. Author-abstract.

362

AN 92049758. 92000.

AU Kanin-Y.

TI *Chernobyl.* Ukraine will close reactors `news:.

SO Nature. 1991 Nov 7. 354(6348). P 8.

JT NATURE.

PT NEWS (NEW).

363

AN 92048508. 92000.

AU Czeizel-A-E. Elek-C. Susanszky-E.

IN Department of Human Genetics and Teratology, National Institute of Hygiene, Budapest, Hungary.

TI The evaluation of the germinal mutagenic impact of *Chernobyl* radiological contamination in Hungary.

SO Mutagenesis. 1991 Jul. 6(4). P 285-8.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

AB The genetic consequences of radioactive fall-out deposition from the *Chernobyl* (USSR) accident in Hungary was evaluated as a part of the ongoing programme on the population-based Hungarian Surveillance of Germinal Mutations. The surveillance is based on three groups of indicator conditions: 15 sentinel anomalies (indicators of germinal dominant gene mutations), Down's syndrome (an indicator of germinal numerical and structural chromosomal mutations) and unidentified multiple congenital abnormalities (indicators of germinal dominant gene and chromosomal mutations). Cases with these indicator conditions were selected from the material of the Hungarian Congenital Abnormality Registry. After the diagnostic accuracies were checked, familial and sporadic cases were separated. Only the latter group was evaluated for evidence of new mutations. The analysis did not reveal any measurable germinal mutagenic effects of the *Chernobyl* accident. Furthermore, there were no significant differences in the rates of these three groups of indicator conditions between regions with higher and lower increased background radiation. Author-abstract.

364

AN 92048303. 92000.

AU Turaev-R-N.

TI `Health status of the adult population in Western districts of the Bryansk region in 1989:.

SO Med-Radiol (Mosk). 1991. 36(9). P 8-14.

PT JOURNAL-ARTICLE (ART).

AB The paper is devoted to the results of a study of the health status of the adult population in western districts of the Bryansk area, exposed to radiation fall-outs as a result of the *Chernobyl* accident, as presented by medical doctors and researchers of hospitals, research institutes, and the republican health services. The paper also deals with information on demographic processes and the level and state of health service in these regions. Analysis of the health status provides no opportunity to detect diseases caused by exposure of the population to ionizing radiation. Author-abstract.

365

AN 92048302. 92000.

AU Korolev-V-I. Murashov-B-V. Feigin-L-G.

TI `Bone marrow tissue doses in various types of radiation exposure:.

SO Med-Radiol (Mosk). 1991. 36(9). P 6-8.

PT JOURNAL-ARTICLE (ART).

AB Basing on some literature data and their own results, the authors calculated bone marrow radiation doses in global fallouts, medical x-ray investigations, a radionuclide fallout during the *Chernobyl* accident, and under occupational conditions during exposure to radiation factors of luminous compounds of permanent action (LCPA). Functional insufficiency of hemopoiesis and the absence of synchronization in bone marrow and peripheral blood responses to radiation exposure were revealed in professionals, working in contact with LCPA in correlation with doses of external inhomogeneous gamma-beam irradiation. Author-abstract.

366

AN 92048300. 92000.

AU Torubarov-F-S. Nikolaev-M-K. Dakhno-D-V.

TI `Diagnosis of autonomic-vascular dystonia in persons who participated in the liquidation of the effects of the *Chernobyl* AES accident:.

SO Med-Radiol (Mosk). 1991. 36(9). P 54-6.

PT JOURNAL-ARTICLE (ART).

AB The diagnosis of autonomic-vascular dystonia caused by small doses of ionizing radiation can be made only on the basis of the objectivity, completeness, constructive and individual character of data. It gives an opportunity to reflect in the diagnosis cause/effect relationships, to define the main and supplementary factors of a pathological process and to show their interrelationships and interinfluence. It leads to the development of adequate therapeutic-rehabilitation tactics. Author-abstract.

367

AN 92048294. 92000.

AU Ivanova-np. Shvydko-N-S.

TI `Dosage of irradiation of the population in the Bryansk region with plutonium deposited in the soil after the *Chernobyl* AES accident:.

SO Med-Radiol (Mosk). 1991. 36(9). P 4-6.

PT JOURNAL-ARTICLE (ART).

AB Proceeding from the data on ^{238}Pu , ^{239}Pu , ^{240}Pu concentrations in the soil in different areas of the Bryansk Region, exposed to radioactive contamination after the *Chernobyl* accident, radiation dose exposures of residents as well as agricultural workers were assessed. Criteria of the ecological and radiation-hygienic standardization were used for calculation of values of dose factors, binding the alimentary and inhalation components of an irradiation dose with characteristics of Pu deposition in the soil. Inhalation of soil particles accounted for approximately 90% of a total radiation dose of the "soil" Pu component, and the alimentary component-for approximately 10% (of this, 99% were attributed to plant products). The authors proposed prognostic assessment of an expected effective equivalent dose for a period of 70 years for people, residing in these areas (0.08-0.45 cSi for the population and 0.6-3.2 cSi for mechanics). Author-abstract.

368

AN 92048254. 92000.

AU Oganesian-N-M. Ogandzhanian-E-A. Melikian-I-E. Malikoian-S-A. Tiroian-G-M. Asrian-K-V. Abramian-A-K. Batikian-I-G.

TI `Results of a follow-up of participants in the liquidation of the effects of the *Chernobyl* AES accident:.

SO Med-Radiol (Mosk). 1991. 36(10). P 33-6.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the results of analysis of a clinico-laboratory study of persons (residents of Armenia) who took part in the elimination of the effects of the *Chernobyl* accident. Investigation of general morbidity revealed no correlation with exposure to ionizing radiation. The symptom complex of pathological changes included CNS functional disorders, a transition from the hypokinetic type of a heart response to exercise to the normokinetic one, lowered immune status and tissue peripheral blood flow, unmarked hematological and biochemical shifts, suggesting suppression of the body antioxidant system. Author-abstract.

369

AN 92047998. 92000.

AU Prisyazhiuk-A. Pjatak-O-A. Buzanov-V-A. Reeves-G-K. Beral-V.

TI Cancer in the Ukraine, *post-Chernobyl* `letter:.

SO Lancet. 1991 Nov 23. 338(8778). P 1334-5.

JT LANCET.

PT LETTER (LET).

370

AN 92032077. 92000.

AU Kalakutskii-K-L. Zabolotnyi-A-I. Lvov-N-P.

TI `Proteins of the lupin family, binding molybdenum, tungsten, and radionuclide effluents from the *Chernobyl* Atomic Energy Station:.

SO Biokhimiia. 1991 Jul. 56(7). P 1220-7.

JT BIOKHEMIIA.

PT JOURNAL-ARTICLE (ART).

AB Yellow lupine seeds were found to contain two proteins and a low molecular weight fraction possessing the ability to bind Mo, W and radionuclides from the *Chernobyl* nuclear power in vivo and the 185W isotope in vitro. These proteins differ in their electrophoretic mobility. The electrophoretically less mobile protein undergoes proteolytic degradation; the proteolytic product retains the ability to accumulate microelements. Author-abstract.

371

AN 92022511. 92000.

AU Eijgenraam-F.

TI *Chernobyl's* cloud: a lighter shade of gray `news:.

SO Science. 1991 May 31. 252(5010). P 1245-6.

JT SCIENCE.

PT NEWS (NEW).

372

AN 92022503. 92000.

AU Marouf-B-A. al-Hadad-A-K. Toma-N-A. Tawfiq-N-F. Mahmood-J-A. Hasoon-M-A.

IN Nuclear Research Center, Baghdad, Iraq.

TI Radionuclide contamination of foods imported into Iraq following the *Chernobyl* nuclear reactor accident.

SO Sci-Total-Environ. 1991 Jul 15. 106(3). P 191-4.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Since early 1986, a monitoring program for radionuclides in imported foods has been carried out by the Iraqi Atomic Energy Commission. After the *Chernobyl* nuclear reactor accident in the Soviet Union, the program was expanded; our laboratory was officially designated by the Iraqi Government to measure radionuclide activity concentrations in foodstuff imported from countries known to be severely contaminated by *Chernobyl* radioactive fallout. Gamma-spectrometric analysis was used. Food items such as powdered milk, lamb meat, poultry, cereals and grains imported into Iraq before the *Chernobyl* accident did not contain any detectable fission products. However, all lamb meat, 81% of the lentil, 44% of the powdered milk and chick-pea, and 17% of the roast beef samples were contaminated with 137Cs or 134Cs and 137Cs. The highest 137Cs contamination levels found were 82, 147, 420, 6 and 4 Bq kg-1, respectively. Contamination by 134Cs was approximately 50% of the values given above. Author-abstract.

373

AN 92022502. 92000.

AU Borio-R. Chiocchini-S. Cicioni-R. Degli-Esposti-P. Rongoni-A.
Sabatini-P. Scampoli-P. Antonini-A. Salvadori-P.

IN Health Physics Laboratory, University of Perugia, Italy.

TI Uptake of radiocesium by mushrooms.

SO Sci-Total-Environ. 1991 Jul 15. 106(3). P 183-90.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* accident in April 1986 the ¹³⁴Cs, ¹³⁷Cs and ⁴⁰K activity of mushrooms of different genera and their corresponding soils from woods located in the province of Umbria (Italy) was determined. The results indicated: a temporally increasing trend for ¹³⁷Cs up to a "limit value" depending on local fallout in 1986; different cesium concentrations in various mushroom genera; and uptake of potassium from soil that did not appear to compete with cesium uptake. No reliable correlation can be inferred between the cesium content of the soil and those of mushrooms. Author-abstract.

374

AN 92022490. 92000.

AU Battiston-G-A. Degetto-S. Gerbasi-R. Sbrignadello-G.
Parigi-Bini-R. Xiccato-G. Cinetto-M.

IN Istituto di Chimica e Tecnologia dei Radioelementi, C.N.R., Area di Ricerca, Padova, Italy.

TI Transfer of *Chernobyl* fallout radionuclides from feed to growing rabbits: cesium-137 balance.

SO Sci-Total-Environ. 1991 Jun. 105. P 1-12.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Intake, excretion and retention of gamma-emitting radionuclides were assessed in male rabbits fed a radioactive pelleted diet (¹³⁷Cs = 858 Bq kg⁻¹ as fed) containing 40% dehydrated alfalfa meal contaminated by *Chernobyl* fallout. In order to evaluate radionuclide retention, an experiment was carried out on 33 animals as follows: nine rabbits were slaughtered at the beginning of the trial, six were fed a radioactive diet for 42 days, six a radioactive diet for 21 days, six a radioactive diet for 21 days and a normal diet (¹³⁷Cs = 112 Bq kg⁻¹ as fed) for the following 21 days and six a normal diet for 42 days. All the animals were housed in individual metabolism cages throughout the trial. All faeces and urine were collected and analyzed separately and live weight and feed intake were measured on a weekly basis. At the end of the trial all the animals were slaughtered and the activities of net body and muscles were determined. Cesium-137, ¹³⁴Cs, ¹⁰³Ru, ¹⁰⁶Ru, ¹²⁵Sb, ^{110m}Ag and ⁴⁰K were measured by gamma spectroscopy. More than 85% of ingested cesium was excreted through faeces and urine (fecal much greater than urinary) and the retained ¹³⁷Cs in the carcass of the more contaminated animals was only 3% of the total ingested. The concentration of total cesium in muscle reached a maximum value of 156 Bq kg⁻¹, much lower than the EEC

guideline (600 Bq kg⁻¹), and the biological half-life for ¹³⁷Cs was calculated to be 11 days. The feed-body accumulation factors were determined in net body and muscle. Author-abstract.

375

AN 92022256. 92000.

AU Parmentier-C. Moutet-A. Parmentier-N. Schlumberger-M. Nenot-J-C. Simonet-M-L. Kouchner-B.

IN Institut Gustave-Roussy, Unite de medecine nucleaire et d'echographie, Villejuif.

TI *`Chernobyl* five years later:.

SO Rev-Prat. 1991 Sep 15. 41(20). P 1953-6.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB 4 Refs.

376

AN 92009156. 92000.

AU Petrova-N-A.

TI `Chromosomal restructuring of three species of chiromonads from the *Chernobyl* region (Diptera, Chironomidae):.

SO Genetika. 1991 May. 27(5). P 836-48.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Chromosomal polymorphism of three species--Chironomus plumosus, Ch. balatonicus and Glyptotendipes glaucus collected from the *Chernobyl* Zone demonstrated following characteristics: lack of standard karyotype, the presence of hetero- and homozygotic inversions (seven para- and one pericentric), increase in centromeric heterochromatin (55% larvae in homo- and heterozygotic state), the presence of B chromosomes (21%)--in Ch. plumosus; only two larvae had a standard karyotype, the rest demonstrating hetero- and homozygotic inversions (eleven paracentrics), reciprocal translocations of the IVF and IA arms, B chromosomes (5.4%), increase in telomeric (43.6%) and centromeric (1.8%) heterochromatin--in Ch. balatonicus; two types of hetero- and homozygotic inversions, replacement of standard sequences in C and D for inversional homozygotic ones--in Gl. glaucus. Author-abstract.

377

AN 92007076. 92000.

AU Komissarenko-S-V. Zak-K-P. Khomenko-B-M. Karlova-N-P.

Lukinov-D-I. Semionova-T-A. Cherniak-S-I.

TI `The count and ultrastructure of CD4+ cells (T-inducers/helpers) in the blood of persons subjected to low-dose radiation exposure in the elimination of the sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Dokl-Akad-Nauk-SSSR. 1991. 318(5). P 1259-61.

JT DOKLADY AKADEMII NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

378

AN 92003277. 92000.
AU Ramsay-C-N. Ellis-P-M. Zealley-H.
IN Lothian Health Board, Royal Hospital for Sick Children, Edinburgh,
UK.
TI Down's syndrome in the Lothian region of Scotland--1978 to 1989.
SO Biomed-Pharmacother. 1991. 45(6). P 267-72.
JT BIOMEDICINE AND PHARMACOTHERAPY.
PT JOURNAL-ARTICLE (ART).
AB A study of Down's syndrome in Lothian for the years 1978-1989
revealed a significantly higher than expected incidence of cases in
1987. The increased incidence was particularly significant among
women aged 35 years or more. The increase could not be attributed to
demographic changes on birth rates or to the age distribution of the
women concerned. A temporal association between the cluster of cases
and the events at *Chernobyl* in April 1986 was demonstrated. However,
according to current understanding, there is no biologically
plausible explanation to link the 2 events, given the reported levels
of radioactive fallout in the Lothian region, resulting from the
Chernobyl disaster. An explanation for the increased incidence of
Down's syndrome in 1987 remains outstanding. Author-abstract.

379

AN 92003276. 92000.
AU Harjulehto-T. Rahola-T. Suomela-M. Arvela-H. Saxen-L.
IN Department of Pathology, University of Helsinki, Finland.
TI Pregnancy outcome in Finland after the *Chernobyl* accident.
SO Biomed-Pharmacother. 1991. 45(6). P 263-6.
JT BIOMEDICINE AND PHARMACOTHERAPY.
PT JOURNAL-ARTICLE (ART).
AB The explosion at the *Chernobyl* nuclear power plant caused radioactive
fallout in Finland in April-May 1986. The fallout was unevenly
distributed geographically, and, accordingly, the country was divided
into 3 fallout zones. Whole-body radioactivity measurements of
randomly chosen persons showed that the regional differences
prevailed throughout the following 2 years. Data for legal
abortions, registered congenital malformations as well as preterm
births and stillbirths of malformed children were collected. The
corresponding expected figures were obtained from statistics from
1984 and 1985. No differences in the expected/observed rates of the
above parameters were detected. Author-abstract.

380

AN 92003275. 92000.
AU Sperling-K. Pelz-J. Wegner-R-D. Schulzke-I. Struck-E.
IN Institut fur Humangenetik, Heubnerweg, Berlin, Germany.
TI Frequency of trisomy 21 in Germany before and after the *Chernobyl*
accident.
SO Biomed-Pharmacother. 1991. 45(6). P 255-62.
JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB For Berlin (West) the rate of trisomy 21 among newborn and all prenatally diagnosed cases can be almost completely recorded, including the maternal age distribution. During the 9-year-period from 1980 and 1988 the average number of trisomy 21 per month was about 2, following a Poisson distribution. A significant increase (P less than 0.01) was observed in January 1987, exactly 9 months after the *Chernobyl* accident. In a supraregional study based on greater than 30,000 prenatal diagnoses performed in 1986, no significant effect could be observed. However, the highest rates of trisomy 21 were observed in the more heavily contaminated, southern part of Germany. The majority of these fetuses were conceived during the period of greatest radioactive exposure. The data are discussed with respect to the effect of low-dose radiation around the time of conception on the induction of non-disjunction in man.
Author-abstract.

381

AN 92003274. 92000.

AU Czeizel-A-E.

IN Department of Human Genetics and Teratology, WHO Collaborating Centre for the Community Control of Hereditary Diseases, National Institute of Hygiene, Budapest, Hungary.

TI Incidence of legal abortions and congenital abnormalities in Hungary.

SO Biomed-Pharmacother. 1991. 45(6). P 249-54.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB The annual and monthly distributions of congenital abnormalities and pregnancy outcomes as confounding factors were evaluated in Hungary in reflection of the accident at the *Chernobyl* reactor. The different congenital abnormality entities and the components of fetal radiation syndrome did not show a higher rate after the *Chernobyl* accident in the data-set of the Hungarian Congenital Abnormality Registry. Among confounding factors, the rate of induced abortions did not increase after the *Chernobyl* accident in Hungary. In the 9th month after the peak of public concern (May and June, 1986) the rate of livebirths decreased. Three indicator conditions: 15 sentinel anomalies as indicators of germinal dominant gene mutations, Down syndrome as an indicator of germinal numerical and structural chromosomal mutations, and unidentified multiple congenital abnormalities as indicators of germinal dominant gene and chromosomal mutations were selected from the material of the Hungarian Congenital Abnormality Registry. Diagnoses were checked, familial and sporadic cases were separated and only the sporadic cases were evaluated. The analysis of indicator conditions did not reveal any measurable germinal mutagenic effect of the *Chernobyl* accident in Hungary.
Author-abstract.

382

AN 92003273. 92000.

AU Spinelli-A. Osborn-J-F.
 IN Laboratorio di Epidemiologia e Biostatistica, Istituto Superiore di
 Sanita, Rome, Italy.
 TI The effects of the *Chernobyl* explosion on induced abortion in Italy.
 SO Biomed-Pharmacother. 1991. 45(6). P 243-7.
 JT BIOMEDICINE AND PHARMACOTHERAPY.
 PT JOURNAL-ARTICLE (ART).
 AB Four regression models have been fitted to data of the monthly number
 of induced abortions in Italy between January 1984 and April 1986, in
 order to predict the number which would have occurred in the 5 months
 following the *Chernobyl* explosion. In model I the average number of
 abortions per day in each month was the dependent variable and
 calendar months, a linear time trend and previous month's value were
 the independent variables. Model II included a quadratic time trend
 term in addition to the independent variables used in model I. Models
 III and IV were like models I and II except that the dependent
 variable was the average number of abortions per working day in each
 month and the effect of the previous month's value was omitted. The
 4 models all implied that an excess number of abortions were
 performed in the 5 months following the *Chernobyl* accident. The mean
 daily excess was estimated to be 28 and 52 per day for models I and
 II and the mean excess per working day was estimated to be 20 and 30
 by models III and IV, respectively. Clearly the estimated magnitude
 of the excess depends on whether the quadratic time trend is included
 among the explanatory variables, but these results imply that the
 excess is unlikely to be merely due to chance. Author-abstract.

383

AN 92003272. 92000.
 AU Irgens-L-M. Lie-R-T. Ulstein-M. Skeie-Jensen-T. Skjaerven-R.
 Sivertsen-F. Reitan-J-B. Strand-F. Strand-T. Egil-Skjeldestad-F.
 IN Medical Birth Registry of Norway, University of Bergen.
 TI Pregnancy outcome in Norway after *Chernobyl* `published erratum
 appears in Biomed Pharmacother 1991;45(9):428:..
 SO Biomed-Pharmacother. 1991. 45(6). P 233-41.
 JT BIOMEDICINE AND PHARMACOTHERAPY.
 PT JOURNAL-ARTICLE (ART).
 AB Pregnancy outcome has been studied in terms of legal abortions, early
 spontaneous abortions and total number of pregnancies (in an ad hoc
 study covering 6 counties) as well as various perinatal health
 problems (on the basis of routinely recorded data for epidemiological
 surveillance from the Medical Birth Registry of Norway). Apparently,
 no effects were observed in terms of an increased occurrence of legal
 abortions, while spontaneous abortions increased from 7.2% of all
 pregnancies during the last 12 months before the accident to 8.3%
 after the accident `corrected:.. At the same time, the total number
 of pregnancies somewhat decreased. Based on monthly measurements in
 each municipality of external and internal (food-based) doses,
 dose-response associations were assessed for a number of perinatal
 health problems. No associations were observed. Author-abstract.

384

AN 92003271. 92000.

AU Knudsen-L-B.

IN Danish National Board of Health, Sundhedsstyrelsen, Copenhagen K, Denmark.

TI Legally induced abortions in Denmark after *Chernobyl.*

SO Biomed-Pharmacother. 1991. 45(6). P 229-31.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB During the months following the accident in *Chernobyl,* Denmark experienced an increasing rate of induced abortion, especially in regions with the largest measured increase in radiation. As the increase in radiation in Denmark was so low that almost no increased risk of birth defects was expected, the public debate and anxiety among the pregnant women and their husbands "caused" more fetal deaths in Denmark than the accident. This underlines the importance of public debate, the role of the mass media and of the way in which National Health authorities participate in this debate. Author-abstract.

385

AN 92003270. 92000.

AU Odland-V. Ericson-A.

IN Department of Obstetrics and Gynaecology, University of Uppsala, Academic Hospital, Sweden.

TI Incidence of legal abortion in Sweden after the *Chernobyl* accident.

SO Biomed-Pharmacother. 1991. 45(6). P 225-8.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB The number of legal abortions in Sweden increased around the time of the *Chernobyl* accident, particularly in the summer and autumn of 1986. Although there was no recording of reasons for legal abortions, one might have suspected this increase to be a result of fear and anxiety after the accident. However, seen over a longer time perspective, the increase in the number of abortions started before and continued far beyond the time of the accident. There was also a simultaneous and pronounced increase in the number of births during the years subsequent to the accident. Therefore, it seems unlikely that fear of the consequences of radioactive fall-out after the *Chernobyl* accident resulted in any substantial increase of the number of legal abortions in Sweden. Author-abstract.

386

AN 92003269. 92000.

AU Bengtsson-G.

IN Swedish Radiation Protection Institute, Stockholm, Sweden.

TI Introduction: present knowledge on the effects of radioactive contamination on pregnancy outcome.

SO Biomed-Pharmacother. 1991. 45(6). P 221-3.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB This introduction gives a brief review of the effects on pregnancy outcome that might follow radioactive contamination of the environment. These include miscarriages, congenital anomalies, damage to the central nervous system expressed through reduced intelligence and a risk of tumours late in life. Knowledge is fragmentary and field studies are difficult, which lends weight to the attempts at studying the effects of the *Chernobyl* accident in Europe which are the subject of the present symposium.
Author-abstract.

387

AN 92003268. 92000.

AU Milhaud-G.

IN Service de Medecine Nucleaire, Hopital Saint-Antoine, Paris, France.

TI The lesson of the *Chernobyl* disaster.

SO Biomed-Pharmacother. 1991. 45(6). P 219-20.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

AB On April 26, 1986 a major nuclear disaster took place at 1 h 24 min local time, destroying the fourth reactor of the *Chernobyl* plant. Five years later the consequences of the disaster are still not fully known. Nevertheless the long term future of nuclear energy in the world is uncertain. Questions need to be answered by observing hard facts if emotional attitudes are not to prevail over reality. The reactor and its core were destroyed by an explosion, causing two radioactive jet emissions of iodine 131, followed by caesium 137. Both elements are mainly incorporated in the body via food. The *Chernobyl* disaster was a consequence of inadequate safety regulations and human error. Enforcement of strict regulations are likely to be highly effective in preventing a further catastrophe. However, governments should consider another possibility. What would be the consequences for public health if a terroristic act deliberately destroyed a nuclear power station? Author-abstract.

388

AN 92003267. 92000.

TI Proceedings of the symposium on the effects on pregnancy outcome in Europe following the *Chernobyl* accident. 28 January 1991.

SO Biomed-Pharmacother. 1991. 45(6). P 217-76.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT CONGRESS (CON). OVERALL (OVR).

389

AN 91372200. 91000.

AU Luczak-H.

IN Institut fur Arbeitswissenschaft, Berlin, Germany.

TI Work under extreme conditions.

SO Ergonomics. 1991 Jun. 34(6). P 687-720.

JT ERGONOMICS.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Extreme conditions are defined in terms of deviation from the norm, and the mismatch between capacity and demand. Analysis of ergonomic job description data revealed the predominance, through their frequent occurrence, of extreme conditions. Extreme work environment conditions, such as climate, acceleration, and air pressure, are discussed. Task and error-concepts for workers operating under extreme workload are investigated, with reference to *Chernobyl*, stress-strain concepts for ATC, college examinations and shiphandling. Author-abstract. 44 Refs.

390

AN 91372106. 91000.

AU Zak-K-P. Afanaseva-V-V. Grinchenko-I-M. Cherniak-S-I. Komissarenko-S-V.

TI `The count, ultrastructure and ultracytochemistry of the blood neutrophils of persons subjected to low-dose radiation exposure during the elimination of the sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Dokl-Akad-Nauk-SSSR. 1991. 318(3). P 760-2.

JT DOKLADY AKADEMII NAUK SSSR.

PT JOURNAL-ARTICLE (ART).

391

AN 91367104. 91000.

AU Guskova-A-K. Baranov-A-E.

TI `The hematological effects in those exposed to radiation in the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1991. 36(8). P 31-7.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with analysis of the data on a picture of the blood of 115 patients with acute radiation syndrome. Basing on the literature data, the authors discuss a possibility of developing leukemia in these patients and in persons, irradiated at lower doses, as a result of radiation affection of hemopoiesis. Author-abstract.

392

AN 91361706. 91000.

AU Hadlok-R-M. Harju-H. Sattler-E-L. Wagner-G.

IN Institut fur Tierarztliche Nahrungsmittelkunde, Justus-Liebig-Universitat Giessen, Bundesrepublik Deutschland.

TI `Cesium 134 and 137 contamination of game killed in Hesse:.

SO Z-Lebensm-Unters-Forsch. 1990 Dec. 191(6). P 454-8.

JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.

PT JOURNAL-ARTICLE (ART).

AB The amount of caesium 134 and 137 in Hessian game hunted for food (556 animals) after the reactor accident at *Chernobyl* was investigated. Comparisons have been made before and after the accident. Although there was only a very low level of contamination,

the contamination rate of different species varied; on average, the Red Deer showed the highest activity (130 Bq/kg). The level of caesium contamination was mostly influenced by the permanent habitat of the animals. The main influence was due to regional, geographical and meteorological conditions. The influence of age or sex could not be determined. The contamination rate was shown to decrease with time. Author-abstract.

393

AN 91360754. 91000.

AU Grinevich-IuA. Kamenets-LIa. Bendiug-G-D. Martynenko-S-V.
Demina-E-A.

TI `The status of the endocrine function of the thymus in acute radiation sickness resulting from the accident at the *Chernobyl* Nuclear Power Station:.

SO Radiobiologiia. 1991 May-Jun. 31(3). P 297-301.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Data are presented on the role of inhibition of endocrine function of the thymus in the pathogenesis of acute radiation sickness resulted from the direct and indirect (via the increased glucocorticoid production) effects of ionizing radiation. The complex treatment, including nonspecific active immunotherapy, permitted to normalize the thymic hormone level and certain parameters of the immune system. Author-abstract.

394

AN 91360753. 91000.

AU Suvorova-L-A. Chistopolskii-A-S. Gruzdev-G-P. Pokrovskaiia-V-N.

TI `The level of lymphocytes in the peripheral blood as a criterion of the degree of severity of acute radiation sickness (based on materials from the accident at the *Chernobyl* Nuclear Power Station):.

SO Radiobiologiia. 1991 May-Jun. 31(3). P 291-6.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the peripheral blood lymphocyte level as a function of gamma-radiation dose after single gamma-radiation attack resulted from *Chernobyl* disaster. After the initial drop an average level of lymphocytes was stabilized by day 2 after exposure and no further systematic decrease in the number of lymphocytes occurred. The accuracy of prognostication of the severity of acute radiation sickness, determined by the average lymphocyte level on days 3-6 amounted to as low as 50%. However, when the neighbouring, by the severity, groups of patients were taken into account, the accuracy was 88%. Author-abstract.

395

AN 91352850. 91000.

AU Andersson-N.

IN Centre for Tropical Disease Research (CIET), Faculty of Medicine,

Universidad Autonoma de Guerrero, Acapulco, Mexico.

TI Technological disasters--towards a preventive strategy: a review.

SO Trop-Doct. 1991. 21 Suppl 1. P 70-81.

JT TROPICAL DOCTOR.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Technological or man-made disasters are a growth industry. Widely publicized industrial disasters like those in Bhopal and *Chernobyl* are only the tip of the iceberg of human and environmental risk from technological development. Other less well publicized disasters, including the contamination of food, water and air, have affected millions of people. The 'slow' technological disasters - like air pollution, pesticides, radiation, lead, asbestos and other industrial hazards - also compromise human intellectual, behavioural and physical development. Although it can be argued that there are hazards attached to virtually every industrial activity and that it is almost impossible to remove completely the risk of technological disasters, it is possible to reduce this risk by decentralizing or deconcentrating knowledge on technological processes. Global recommendations may provide a framework for priority action, but they are obviously not applicable everywhere with the same intensity. A measurement-based approach is described that is beginning to have an effect in several developing countries. Author-abstract. 93 Refs.

396

AN 91351051. 91000.

AU Bochkov-N-P. Katosova-L-D. Sapacheva-V-A. Platonova-V-I.
Smirnova-T-D. Pitkevich-V-A.

TI `Cytogenetic analysis of the peripheral blood lymphocytes in people residing in regions of the Kaluga Oblast polluted with radionuclides:.

SO Med-Radiol (Mosk). 1991. 36(7). P 50-2.

PT JOURNAL-ARTICLE (ART).

AB In order to reveal possible genetic effects of the *Chernobyl* accident for human populations, a cytogenetic survey of 33 agricultural workers from 2 areas of the Kaluga Region with different radiation backgrounds (villages of Mladensk and Ogor) was conducted in 1989. At the time of investigation a dose of ^{137}Ce for Mladensk was 3.7 ci/km², that for Ogor--1.17 ci/km². Lymphocyte cultivation was performed after the standard semimicromethod for 50 hours; about 155-300 cells were analyzed for chromosome aberrations of each individual, the total number of metaphase plates in 2 groups being 9360. One-factor dispersion analysis has shown that the rate of exchanges of a chromosome type, specific for radiation, was higher in the workers of the village of Mladensk than in the workers of Ogor (p less than 0.05). Thus statistically significant differences in the rate of metabolic aberrations of a chromosome type were revealed in the two study groups with different radiation backgrounds. A high sensitivity of cytogenetic analysis for population biological indication of irradiation was shown. Author-abstract.

397

AN 91351046. 91000.

AU Tsyb-A-F. Matveenko-E-G. Gorobets-V-F. Tsypliakovskaia-L-M.
Ivanov-V-K. Stadnik-O-E. Airapetov-S-A. Nilova-E-V.
Omelchenko-V-N. Borovikova-M-P.

TI `Functional status of the pituitary-thyroid system in children and adolescents exposed to radiation as a result of the accident at the *Chernobyl* Nuclear Power Station:.

SO Med-Radiol (Mosk). 1991. 36(7). P 4-7.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the results of a follow-up over the period of 1986-1989 of function of the hypophyseal-thyroid system in children and adolescents (approximately 6000 persons), residing in the South-West of the Kaluga Region, where radiation fallouts were observed after the *Chernobyl* accident. The results were based upon the analysis of medical examinations and determination of the blood levels of TSH, T4 and T3. A certain functional activation of the thyroid system was observed in a majority of the examinees. A conclusion has been made of a necessity of a long-term follow-up of the thyroid of persons who received radioactive iodine in childhood. Author-abstract.

398

AN 91351037. 91000.

AU Torubarov-F-S. Chinkina-O-V.

TI `The psychic status and work capacity of the victims of the accident at the *Chernobyl* Nuclear Power Station in the period of recovery from and near-term consequences of acute radiation sickness:.

SO Med-Radiol (Mosk). 1991. 36(7). P 10-3.

PT JOURNAL-ARTICLE (ART).

AB Analysis of the results of clinicopsychological investigation of persons developing ARS (I-III degree of severity) as a result of the *Chernobyl* accident has shown that 4-6 mos. after the exposure the psychic status and mental working ability of the affected persons showed close correlation with a degree of ARS. In 12-18 mos. profession and adequate employment played a decisive role in the formation of unfavorable psychic conditions and limited working ability. Later on in 2.5-3 years after exposure a decrease in psychic working ability, the development of unfavorable psychic conditions was noted more frequently in patients with ARS of more severe types and in examinees of older age. At all stages of rehabilitation personality traits of the affected persons play an important role in the revival of working abilities. Author-abstract.

399

AN 91349023. 91000.

AU Filyushkin-I-V.

IN Institute of Biophysics, Moscow, U.S.S.R.

TI Concept of a "lifetime dose" of 350 mSv.

SO Health-Phys. 1991 Sep. 61(3). P 401-4.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* accident, a number of radiation protection criteria for the early and intermediate phases of the accident were set up by the authorities to protect the public in affected areas. For the late phase, an intervention level of 350 mSv over a lifetime, the so-called 350-mSv concept, has been recommended by the National Council on Radiation Protection and Measurements (NCRP) in the USSR. This concept has been strongly criticized by opponents in the affected republics as being far too high and therefore inhumane. However, a lifetime dose of 350 mSv would impose on an individual an average annual risk of the order of $10(-4) \text{ y}^{-1}$, which is lower than the annual individual risk due to nonradiation causes prevailing in many areas in the USSR. The basic radiation protection principles for nuclear accidents as recommended by the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA) are at present very difficult to apply in the USSR because the concepts of risk and acceptable risk are rejected categorically. If, however, principles of justification and optimization had been used, the result might have shown that the present lifetime dose limit of 350 mSv, as an intervention level, is actually too low. Author-abstract.

400

AN 91346196. 91000.

AU Henschler-D.

IN Institut für Toxikologie, Universität Würzburg.

TI `Genetic injuries caused by radiation and other harmful environmental pollutants:.

SO Aktuelle-Radiol. 1991 May. 1(3). P 116-9.

JT AKTUELLE RADIOLOGIE.

PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).

AB Cancer may be induced by chemicals, ionizing radiation and certain viruses. The first causal relationships between occupation and increase in cancer have been reported two and half centuries ago. In the meantime, many other occupational toxicants have been identified as cancer inducing agents. However, quantitative risk estimates can be established in a few cases only. On the other hand, modern epidemiological investigations have brought about the main causes of cancer in highly civilized populations as certain life-styles; approximately 35% are attributed to inadequate diet and nutrition, 30% to tobacco, 7% are hormone-related in context with human reproduction, 4% due to occupational exposures, 3% may be caused by alcohol consumption, 1,5% by UV radiation and 1% by medicines (cytostatics included). Cancer risks from radiation exposure are comparatively very low. Although radiation can be measured precisely and reliably as physical units, cancers induced by nuclear weapon fallout and precipitation from the accident of *Chernobyl* will never be detected by epidemiological methods due to their minimal

proportions. The attribution of causes obtained in this way allows for the conclusion: human cancers are mostly due to chemically definable factors, and thus are avoidable. Author-abstract.

401

AN 91340290. 91000.

AU Kinalska-I. Zarzycki-W. Krawezuk-I. Gosiewska-A. Gorska-M. Zonenberg-A.

IN Department of Endocrinology, Medical School, Bialystok, Poland.

TI Antithyroid autoantibodies in the examined population with iodine prophylaxis after the *Chernobyl* catastrophe.

SO Horm-Metab-Res. 1991 May. 23(5). P 236-8.

JT HORMONE AND METABOLIC RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The aim of the present study was the observation of the frequency of antithyroid autoantibodies in the population in low endemic goitre area after mass iodine prophylaxis after the *Chernobyl* catastrophe and the estimation of TSH and thyroid hormones secretion in this population. On the basis of the investigations carried out we could conclude that the frequency of antithyroid autoantibodies in the population with confirmed endemic goitre is comparable to the frequency of antithyroid autoantibodies in the healthy population. ATA occurrence in children after iodine prophylaxis could confirm the hypothesis that thyroglobulin immunity is higher after iodine intake. The lower T3 concentration observed in the group with antithyroid autoantibodies suggests that autoantibodies may be involved in the thyroid hormones synthesis or peripheral conversion of thyroid hormones. Author-abstract.

402

AN 91340056. 91000.

AU Osechinskii-I-V. Ivanov-E-P. Martirosov-A-R. Tolochko-G-V. Shuvaeva-L-P.

TI `Hemoblastosis epidemiology in the *Chernobyl* region. I. Organization of research in the Homel'sk Region:.

SO Gematol-Transfuziol. 1991 May. 36(5). P 36-8.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

403

AN 91335265. 91000.

AU Liubchenko-P-N. Dubinina-E-B. Roslov-A-L. Tishenina-R-S. Feofanova-V-N.

TI `Status of the pancreas in the group of persons participating in liquidation of the sequelae of the accident at the *Chernobyl* nuclear power plant:.

SO Sov-Med. 1991. (4). P 55-6.

JT SOVETSKAIA MEDITSINA.

PT JOURNAL-ARTICLE (ART).

404

AN 91333935. 91000.
TI Cincy researchers study *Chernobyl* victims.
SO Ohio-Med. 1991 Jul. 87(7). P 344-5.
PT JOURNAL-ARTICLE (ART).

405

AN 91332692. 91000.
AU Rabitsch-H. Feenstra-O. Kahr-G.
IN Department of Radiation Physics, Technical University of Graz,
Austria.
TI Radiocesium levels in humans over a four-year period.
SO J-Nucl-Med. 1991 Aug. 32(8). P 1491-5.
JT JOURNAL OF NUCLEAR MEDICINE.
PT JOURNAL-ARTICLE (ART).
AB Following the *Chernobyl* accident, Austria was one of the most
contaminated Western European countries. Predictions of internal
dose in humans due to this contamination were based on the average
activities in major dietary products and average consumption rates.
We have measured the amount of radiocesium in human adult muscle
samples obtained at forensic autopsies within a limited area in
Southern Austria over a period of 4 yr. From the measurements, we
have estimated a mean individual effective dose equivalent of 252.2
muSv (25.2 mrem) due to internal exposure to radiocesium during this
4-yr period. This estimate, based on actual measurements, is
approximately 25% of the predicted dose and is less than 50% of the
dose received in the body from naturally occurring potassium-40.
Comparisons of radiocesium activities measured in muscle tissues with
data obtained after nuclear weapons tests and whole-body countings
are given. Author-abstract.

406

AN 91320149. 91000.
AU Mordachev-I-P. Burak-I-I. Zaiats-V-I. Voronenko-NIa.
Prokhodskii-V-M. Mitiushhev-SIu. Kulikov-V-A.
TI `Morbidity and the ways of improving the organization of medical
services to the victims of the accident at the *Chernobyl* nuclear
power plant:.
SO Sov-Zdravookhr. 1991. (4). P 37-9.
JT SOVETSKOE ZDRAVOOKHRANENIE.
PT JOURNAL-ARTICLE (ART).

407

AN 91318946. 91000.
AU Kalinin-N-L. Kukharkova-T-V. Karpun-I-I. Baranov-A-E.
TI `Dynamics of the immunohematologic indices in patients with acute
III-IV degree radiation sickness in the post-pancytopenia period:.
SO Med-Radiol (Mosk). 1991. 36(6). P 32-6.
PT JOURNAL-ARTICLE (ART).
AB The paper is concerned with the results of determining the total

number of lymphocytes, T-lymphocytes and their immunoregulatory subpopulations, B-lymphocyte of peripheral blood, serum IgA, IgG and IgM in 44 patients with ARS, II-IV degree at days 37-109 after the *Chernobyl* accident. Bone marrow transplantation was performed in all the patients not later than on the 14th day. Among lymphocytes, T-lymphocytes were shown to restore to normal first, the T-helpers/T-suppressors ratio being decreased. In 2 survivors this ratio remained decreased 2 mos. after the normalization of peripheral blood indices. Possibilities of correction of the revealed disorders with immunomodulators were discussed. Author-abstract.

408

AN 91318944. 91000.

AU Solovev-VIu. Baranov-A-E. Barabanova-A-V. Vorobeva-L-V.
Guskova-A-K. Krasniuk-V-M. Nugis-VIu. Piatkin-E-K.
Selidovkin-G-D.

TI `The relation of the times of onset of vomiting to the magnitude and power of the dose of ionizing radiation:.

SO Med-Radiol (Mosk). 1991. 36(6). P 27-30.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with analysis of correlation of the time of appearance of vomit in a person and a mean dose rate of prolonged gamma-radiation in the persons affected at the *Chernobyl* accident. The data were approximated by power function. For irradiation with a constant dose rate (P) such correlation looks like $T_p = 2.48p^{-0.5}$, where T_p is the time of the beginning of vomit, hours after the beginning of irradiation. A semiempirical model combining different conditions of irradiation was formed. Prognosis of a severity of lesion with relation to the time of vomit was given for different conditions of irradiation. Author-abstract.

409

AN 91318943. 91000.

AU Metliaeva-N-A. Nadezhina-N-M.

TI `Clinico-electrocardiographic evaluation of the state of the cardiovascular system in personnel engaged in liquidating the consequences of the accident at the *Chernobyl* Atomic Power Station:.

SO Med-Radiol (Mosk). 1991. 36(6). P 25-7.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with analysis of the results of clinico-electrocardiographic investigation of 107 rescuers, engaged in the elimination of the effects of the *Chernobyl* accident. A high percent (27.2%) of the detectability of borderline arterial hypertension was noted among the rescuers (aged to 39) that was determined by a strong psychoemotional tension resulting from work and radiation phobia. Author-abstract.

410

AN 91313371. 91000.

AU Crout-N-M. Beresford-N-A. Howard-B-J.
 IN Department of Physiology and Environmental Science, Nottingham
 University, Loughborough, United Kingdom.
 TI The radioecological consequences for lowland pastures used to fatten
 upland sheep contaminated with radiocaesium.
 SO Sci-Total-Environ. 1991 Apr 1. 103(1). P 73-87.
 JT SCIENCE OF THE TOTAL ENVIRONMENT.
 PT JOURNAL-ARTICLE (ART).
 AB Current farming practice in upland areas of Cumbria, England,
 affected by *Chernobyl* fallout is to remove lambs to lowland pastures
 for fattening prior to slaughter. The radiocaesium (137Cs and 134Cs)
 burden of lambs is rapidly lost via excreta deposited on the pasture.
 This may increase the radiocaesium activities in vegetation of these
 pastures. Studies were performed to assess the radioecological
 consequences of this practice. Results obtained from experiments
 were used to calibrate a soil/vegetation model which was used to
 predict long-term radiocaesium behavior. Author-abstract.

411

AN 91312973. 91000.
 AU Ertel-J. Ziegler-H.
 IN GSF-Institut fur Strahlenschutz, Neuherberg, Federal Republic of
 Germany.
 TI Cs-134/137 contamination and root uptake of different forest trees
 before and after the *Chernobyl* accident.
 SO Radiat-Environ-Biophys. 1991. 30(2). P 147-57.
 JT RADIATION AND ENVIRONMENTAL BIOPHYSICS.
 PT JOURNAL-ARTICLE (ART).
 AB The Cs-134/137 activities were measured from different tree organs of
 spruce, larch and sycamore maple. Two locations in South Bavaria
 were monitored during a period of 2.5 years following the *Chernobyl*
 accident. Samples taken in 1985 allow to determine the Cs-137
 contamination before the accident. Increasing Cs-137 activities from
 older to younger needle years of Picea abies caused by root-uptake of
 the global weapons' fallout are due to the high phloem mobility of
 this element and the remaining of the needles at the tree for about
 6-7 years. In contrast, the Cs-137 activity was much smaller in
 leaves of larch and sycamore maple. After the *Chernobyl* accident,
 the higher contamination of spruce greater than larch greater than
 sycamore maple is dependent on the roughness of bark, absolute bark
 surface and the existence of leaves during the deposition of
 Chernobyl-derived radioactivity. The Cs-134/137 activity (Bq/kg
 d.w.) was about 25-times higher in bark compared to wood of Picea
 abies and 1.5-4.7 times higher in directly contaminated twig-axes
 than in leaves. Till the end of the investigation the major
 contamination of the shoots was due to direct deposition of cesium on
 the trees. A maximum of 5-15% of the total activity of the directly
 contaminated branches of the plants was calculated to be part of
 root-uptake, depending on the amount of initial retention. 20% of
 the translocated cesium into new leaves of larch and about 50% into

sycamore maple resulted from root-uptake 2.5 years after the accident. Author-abstract.

412

AN 91312471. 91000.
AU Giel-R.
IN Rijksuniversiteit, afd. Sociale Psychiatrie, Groningen.
TI `How bad was *Chernobyl?` Psychosocial sequelae of the reactor accident:.
SO Ned-Tijdschr-Geneskd. 1991 Jun 22. 135(25). P 1137-41.
JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE.
PT JOURNAL-ARTICLE (ART).

413

AN 91310452. 91000.
TI *Chernobyl* consequences `news:.
SO Health-Phys. 1991 Aug. 61(2). P 289-90.
JT HEALTH PHYSICS.
PT NEWS (NEW).

414

AN 91310447. 91000.
AU Raes-F. De-Cort-M. Graziani-G.
IN Commission of the European Communities, Environment Institute, Ispra, Italy.
TI Multi-fractal nature of radioactivity deposition on soil after the *Chernobyl* accident.
SO Health-Phys. 1991 Aug. 61(2). P 271-4.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Fractal analysis is introduced in the field of environmental health physics. In particular, it is applied to the complex and inhomogeneous deposition pattern of radioactivity after the *Chernobyl* accident. The patchiness of 137Cs hot spots is quantified by a fractal dimension as low as 1. The problem of finding hot spots that might be of health concern is discussed. Author-abstract.

415

AN 91308779. 91000.
AU Isles-C-G. Robertson-I. Macleod-J-A. Preston-T. East-B-W. Hole-D-J. Lever-A-F.
IN Medical Research Council Blood Pressure Unit, Western Infirmary, Glasgow.
TI Body concentration of caesium-137 in patients from Western Isles of Scotland.
SO BMJ. 1991 Jun 29. 302(6792). P 1568-71.
JT BMJ.
PT JOURNAL-ARTICLE (ART).
AB OBJECTIVES--To compare caesium-137 concentrations in patients from the Western Isles Health Board, Glasgow area, and other parts of the

Scottish mainland, and to investigate the source of ^{137}Cs in patients from the Western Isles. DESIGN--Study of hypertensive patients having electrolyte concentrations measured, including ^{137}Cs . Interview by questionnaire of island subjects about intake of foods likely to contain radiocaesium and the source of these foods. Measurement of ^{137}Cs and ^{134}Cs in food, urine, and vegetation. SETTING--Scottish mainland and Western Isles, 1979-86. All measurements before *Chernobyl* nuclear accident. PATIENTS--413 consecutive patients referred to the blood pressure unit for investigation of hypertension. 60 from the Western Isles, including 44 from North Uist; 32 from North Uist participated in the dietary analysis. MAIN OUTCOME MEASURES--Concentration of radiocaesium in the body, urine, food, and vegetation. Islanders' consumption of local produce. RESULTS--Patients from the Western Isles had five times higher body concentrations of ^{137}Cs (median 2.54 (interquartile range 1.25-3.73)) Bq/gK) than did patients from around Glasgow (0.47 (0.26-0.66) Bq/gK) and other parts of the Scottish mainland (0.42 (0.24-0.71) Bq/gK). Islanders often consumed local milk and mutton, but ate local fish rarely. ^{137}Cs and ^{134}Cs were present in coastal (21.6 Bq/kg ^{137}Cs , 0.25 Bq/kg ^{134}Cs) and moorland (135.9, 0.65 Bq/kg) grasses and in islanders' urine (2.01, 0.013 Bq/l). Lower concentrations (0.336, 0.004 Bq/l), were found in the urine of Glasgow controls (p less than 0.001 for both isotopes). CONCLUSIONS--Islanders have excess body ^{137}Cs concentrations, most of which probably comes from local milk and lamb. The radioactivity is not above the recommended safety limit. The presence of ^{134}Cs suggests that nuclear reprocessing is the source of some of the radiocaesium. Author-abstract.

416

AN 91302087. 91000.
 AU Jones-R.
 TI *Chernobyl* five years on `letter:.
 SO Health-Visit. 1991 Jul. 64(7). P 238.
 JT HEALTH VISITOR.
 PT LETTER (LET).

417

AN 91293564. 91000.
 AU Lenskaia-R-V. Rumiantsev-A-G. Buiankin-V-M. Ageikin-V-A.
 Baidun-L-V. Borodina-T-M. Vasilev-V-I. Vladimirskaia-E-V.
 Kniazev-IuA.
 TI `Changes in the indicators of bone marrow and blood based on the complex cytological examination of 28 children from the Bryansk region 1 year after the accident at the *Chernobyl* atomic power plant:.
 SO Gematol-Transfuziol. 1991 Apr. 36(4). P 25-8.
 JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.
 PT JOURNAL-ARTICLE (ART).

418

AN 91281208. 91000.
AU Wagner-A. Diehl-J-F.
IN Bundesforschungsanstalt fur Ernährung, Institut fur
Ernährungsphysiologie, Karlsruhe, Bundesrepublik Deutschland.
TI `The radioecology of the grapevine. 2. Effects of the nuclear
reactor accident in *Chernobyl* on the radioactivity in the soil,
leaves, grapes and wine:.
SO Z-Lebensm-Unters-Forsch. 1991 Apr. 192(4). P 339-42.
JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.
PT JOURNAL-ARTICLE (ART).
AB Natural (tritium, ^{14}C , ^{40}K , ^{226}Ra) and man-made radionuclides (^{90}Sr ,
 ^{134}Cs , ^{137}Cs) were determined in soil (top 30 cm), vine leaves,
grapes and wine in eight locations of the most important viticultural
regions in the Federal Republic of Germany. The results obtained in
1983-1985 have been published previously. Part II of this study
presents results obtained in 1986 and 1987, i.e. after the reactor
accident at *Chernobyl* in the Soviet Union. The mean content of ^{137}Cs
before (after) *Chernobyl* was 4 (9) Bq/kg dry matter in soil, 0.07 (3)
Bq/kg fresh matter in leaves, 0.02 (0.4) Bq/kg in grapes, and 0.008
(0.9) Bq/L in wine. As compared with 1986, distinctly lower levels
were found in leaves, grapes and wine in 1987. In 1986 the content
of ^{134}Cs was about half that of ^{137}Cs . Owing to its shorter
half-life, ^{134}Cs was below the detection limit in many of the 1987
samples. Transfer factors such as from soil to leaves and from soil
to grapes for caesium agreed well in 1983-1985 and 1987, but showed
considerable deviations in 1986, due to the ubiquitous contamination
of the environment. Results of ^{90}Sr determinations confirmed other
reports showing this radionuclide to be a very minor contributor to
the total radioactivity released at *Chernobyl.* No effect of the
reactor accident on levels of the other radionuclides was detected.
Author-abstract.

419

AN 91253173. 91000.
AU Kindzelskii-L-P. Klimenko-V-I. Lisetskii-V-A. Sivkovich-S-A.
Kaban-A-P.
TI `Problems in disease diagnosis and treatment for victims of the
accident at the *Chernobyl* Atomic Electric Power Station:.
SO Vrach-Delo. 1991 Mar. (3). P 3-6.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).

420

AN 91251008. 91000.
AU Behar-A. Cohen-Boulakia-F. Othmani-S.
IN Department of Biophysics, University Medical Center Broussais
Hotel-Dieu, University of Paris VI, France.
TI *Chernobyl* three years later: radiobiologic evaluation of a
radioactive contamination.

SO J-Environ-Pathol-Toxicol-Oncol. 1990 Nov-Dec. 10(6). P 281-5.
JT JOURNAL OF ENVIRONMENTAL PATHOLOGY, TOXICOLOGY AND ONCOLOGY.
PT JOURNAL-ARTICLE (ART).

AB On April 26, 1986, after partial fusion and confining loss by explosion of a nuclear reactor, 5×10^7 Ci of radionuclides escaped from *Chernobyl.* Three years later, maps show contamination by radioactive isotopes (formed during that period) of 21,000 km² of Soviet soil, mainly in Byelorussia and part of the Ukraine. Decontamination measures have not been effective to date and 135,000 persons are being followed medically, taking into account the radioactive doses they received. An initial excess of morbidity from solid tumors has been noted much sooner than in the case of Hiroshima and Nagasaki, but its significance is in dispute. Three years later, only the extent of the ecologic disaster caused by the radioactive contamination can be confirmed. It is too early to draw conclusions about radiation-induced carcinogenesis for the contaminated population. Author-abstract.

421

AN 91240770. 91000.

AU Balo-Banga-J-M. Pfeiffer-I. Horvath-A.

IN Department of Dermatology, Semmelweis Medical School, Budapest, Hungary.

TI Environmental influences on the sensitization by drugs measured in peripheral blood lymphocyte chromatin.

SO Acta-Biol-Hung. 1990. 41(1-3). P 43-50.

JT ACTA BIOLOGICA HUNGARICA.

PT JOURNAL-ARTICLE (ART).

AB An "allergo-kinetic" method was introduced, which measures early changes of nuclear chromatin structure of lymphocyte subpopulations. The method is used as an in vitro test for drug allergy. The comparison of data from two sampling places (Budapest-Esztergom) shows the following results: The drug allergy scores (obtained from T-cells) may reflect environmental influences on the population under study. During the 13 months period after Atomic Reactor accident in *Chernobyl,* both the frequency of severe skin manifestations and that of organ manifestations (without skin lesions) increased. The ratio of negative test results decreased in both of drug allergic patient groups (small town = Esztergom, large city = Budapest)--tendency to polysensibilization. The scores obtained in drug related groups of generalized urticaria and Quincke's oedema increased significantly within 13 months after accident followed by a normalization in the subsequent year. Author-abstract.

422

AN 91240765. 91000.

AU Tuschl-H. Kovac-R.

IN Institute of Biology, Research Centre Seibersdorf, Austria.

TI Sister chromatid exchanges (SCEs) in lymphocytes of persons working at Shlobin (USSR), 150 km north of *Chernobyl.*

SO Acta-Biol-Hung. 1990. 41(1-3). P 249-55.

JT ACTA BIOLOGICA HUNGARICA.

PT JOURNAL-ARTICLE (ART).

AB Workers at a building plot in Shlobin (USSR), 150 km north of *Chernobyl,* were examined for the occurrence of spontaneous and mitomycin C induced SCEs in peripheral lymphocytes. Personnel being present during and after the *Chernobyl* accident exhibited a decreased number of inducible SCEs compared with test-persons starting work at Shlobin by 1st of June, 1986. Since effective dose equivalents were rather low (about 2 m Sv till the end of August 1986), induced SCEs proved to be a very sensitive test for the demonstration of low dose exposure. Author-abstract.

423

AN 91240761. 91000.

AU Pohl-Ruling-J. Haas-O-A. Obe-G. Brogger-A. Roscher-U. Daschil-F. Atzmuller-C. Natarajan-A-T.

IN Division of Biophysics, University of Salzburg, Austria.

TI The *Chernobyl* fallout in Salzburg/Austria and its effect on blood chromosomes.

SO Acta-Biol-Hung. 1990. 41(1-3). P 215-22.

JT ACTA BIOLOGICA HUNGARICA.

PT JOURNAL-ARTICLE (ART).

AB The radioactive fallout of the *Chernobyl* accident caused an increase in radiation dose of 20 to 110 per cent over the normal environmental burden to the inhabitants of Salzburg City in Austria (in a distance of about 1300 km from the accident). The structural chromosome aberration in the lymphocytes of the peripheral blood of 15 test-persons have been investigated one year after the accident. From two of these we know also the aberration frequencies before the accident which were significantly lower. The results from all test persons were pooled according to their Cs137 and Cs134 content, measured by whole body counter. Their mean additional blood doses from the incorporated caesium plus the external fallout radiation were 0.23, 0.36 and 0.55 mGy/yr. The aberration frequencies increased with dose. The slope of the best straight-line through the points was 2.0 ± 0.7 total chromosome type aberrations in 100 metaphases per mGy/yr. This result fits in well with former investigations of persons with individually calculated radiation burden from the environment. The sharp increase with dose at this low level is not compatible with values extrapolated from high doses. The usual dose assessment based on chromosome aberrations extrapolated from high to low doses is therefore not possible in the range considered in this investigation. Author-abstract.

424

AN 91239773. 91000.

AU Popova-O-N. Taskaev-A-I. Frolova-N-P.

TI The demonstration of environmental radioactive contamination by its gametocidal action:.

SO Radiobiologiia. 1991 Mar-Apr. 31(2). P 171-4.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Two *Viola matutina* Klok. populations growing in two areas of the thirty-kilometer zone of *Chernobyl* varying in gamma radiation background have been studied. Stable, repeated (during a period of 1987-1988) differences between the populations with respect to the amount of sterile pollen and the pattern of anther distribution curves have been revealed. It is suggested that the increased radiation loading is the cause of the increased occurrence of sterile pollen in one of the populations. Author-abstract.

425

AN 91239772. 91000.

AU Frolova-N-P. Popova-O-N. Taskaev-A-I.

TI `Seed regeneration in a natural population of *Plantago lanceolata* L. in areas with different gamma background levels:.

SO Radiobiologiia. 1991 Mar-Apr. 31(2). P 167-70.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB On the basis of the individual analysis of *Plantago lanceolata* L. nonhomogeneity of its natural population within the thirty-kilometer zone of *Chernobyl* (reproduction of 1989) has been revealed. It is displayed by lower levels of seed productivity of plants growing in the areas with a high level of radioactive contamination. Author-abstract.

426

AN 91239771. 91000.

AU Grodzinskii-D-M.

TI `The 5th anniversary of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Radiobiologiia. 1991 Mar-Apr. 31(2). P 163-6.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

427

AN 91239756. 91000.

AU Lang-S. Raunemaa-T.

IN Department of Environmental Health, University of Kuopio, Finland.

TI Behavior of neutron-activated uranium dioxide dust particles in the gastrointestinal tract of the rat.

SO Radiat-Res. 1991 Jun. 126(3). P 273-9.

JT RADIATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB The behavior of neutron-irradiated, simulated *Chernobyl* UO₂ particles containing ¹⁴¹Ce, ¹⁴⁴Ce, ⁹⁵Zr, ⁹⁵Nb, and ¹⁰³Ru in the gastrointestinal tract was investigated to obtain basic information for dosimetric and risk analyses of nuclear accidents. After the UO₂ particles were administered to rats intragastrically, the

distribution and retention of specific radionuclides were studied by using whole-body autoradiography and gamma-spectrometric analysis of tissues. None of the radionuclides were detected in liver, kidney, muscle, bone, brain, blood, and urine. Approximately 98% of the total administered radioactivity was excreted in feces within 3 days. A two times greater intestinal retention (about 6%) of ⁹⁵Nb than for the other radionuclides was observed 1 day after administration. The results indicate that this kind of relatively insoluble particulate material is not absorbed or retained significantly in the epithelial cells of the intestinal wall. Fallout particles containing high-energy beta sources, ¹⁰⁶Ru and ¹⁴⁴Ce, result in a very high radiation dose (up to several Gy/day) in the vicinity of a hot particle. Niobium-95 with low average beta energy (0.043 MeV (100%)) does not increase the total dose to the GI tract significantly despite its longer retention in the intestine. Evaluation of the biological effects of these particles in the GI tract by using a dosimetric model based on uniform distribution of activity may be misleading. Author-abstract.

428

AN 91238425. 91000.

AU Korzun-V-N.

TI `Decrease in internal irradiation dose from cesium radionuclides by using ferrocen (Prussian blue):.

SO Med-Radiol (Mosk). 1991. 36(5). P 23-7.

PT JOURNAL-ARTICLE (ART).

AB The *Chernobyl* accident gave rise to a problem of development and testing of a method to control the alimentary intake of radioactive Cs and to reduce an internal irradiation dose by adding ferrocen in some food components. Some clinico-experimental investigations have shown that the use of ferrocen-containing foodstuffs in populated areas of strict radiation control will permit a considerable reduction of the body level of radioactive Cs, thus decreasing an internal irradiation dose and will return the population of these areas to their normal way of life. Author-abstract.

429

AN 91238424. 91000.

AU Ogandzhanian-E-E. Pogosian-A-S. Saakian-D-G. Ogandzhanian-A-A. Ambartsumian-S-G. Dallakian-A-M.

TI `Clinical validation of a method for biological demonstration of low radiation levels by the densitometric-geometric parameters of peripheral blood lymphocytes:.

SO Med-Radiol (Mosk). 1991. 36(5). P 21-3.

PT JOURNAL-ARTICLE (ART).

AB Karyometric analysis of blood lymphocytes of persons, exposed to low levels of radiation (up to 25 rem) during elimination of the consequences of the *Chernobyl* accident, has shown changes of lymphocyte densitometric-geometric parameters, characteristic for radiation exposure, observed in 188 of 294 examinees. The meaning of

these statistically significant changes is the following: percentage of the level of large lymphocytes is on the decrease whereas that of average and small ones is on the decrease. There is also a parallel rise of values of the area and perimeter of a lymphocyte nuclear section. The above shifts were observed against a background of normal indices of the absolute number and a relative content of blood lymphocytes. Karyometric analysis of lymphocytes indicated signs of radiation exposure 1-33 mos. after irradiation at small doses. Cytogenetic verification of diagnosis has shown sensitivity of the karyometric method of biological demonstration `correction of bioindication:, which can be recommended as an additional diagnostic test in chronic exposure to low levels of radiation for retrospective assessment. Author-abstract.

430

AN 91238423. 91000.

AU Chaialo-P-P. Bereza-VIa. Chobotko-G-M.

TI `Free-radical processes and blood antioxidant systems in the late period following acute radiation sickness:.

SO Med-Radiol (Mosk). 1991. 36(5). P 20-1.

PT JOURNAL-ARTICLE (ART).

AB Some indices of free radical processes and antioxidant blood protection systems were investigated in a group of persons exposed to ionizing radiation at the *Chernobyl* accident. Lipid peroxidation was shown to undergo changes against a background of decreased antiperoxide protection of erythrocytes 22-24 mos. after exposure in patients after acute radiation sickness, I degree. As compared to donors, the examinees demonstrated a tendency to the accumulation of primary products of lipid peroxidation--hydroperoxides (by 32.2%) and a significant decrease in erythrocyte peroxide stability. Author-abstract.

431

AN 91238422. 91000.

AU Torubarov-F-S. Nikolaev-M-K. Chesalin-P-V. Shakirova-E-N.

TI `Nervous system function in persons receiving irradiation at different dose ranges during the cleanup after the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1991. 36(5). P 17-9.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the results of neurological examination of 113 patients who developed acute radiation sickness of various degrees of severity during the elimination of the effects of the accident at the *Chernobyl* Nuclear Power Station. A clinical picture of neurological disorders at different periods of ARS was described. CNS specific and nonspecific lesions were defined. Author-abstract.

432

AN 91238230. 91000.

AU Mole-R-H.

TI Radiation from *Chernobyl* and the risk of leukaemia.
SO Leukemia. 1991 May. 5(5). P 443-4.
JT LEUKEMIA.
PT JOURNAL-ARTICLE (ART).

433

AN 91238229. 91000.
AU Gale-R-P. Butturini-A.
IN Department of Medicine, UCLA School of Medicine 90024-1678.
TI Perspective: *Chernobyl* and leukemia.
SO Leukemia. 1991 May. 5(5). P 441-2.
JT LEUKEMIA.
PT JOURNAL-ARTICLE (ART).

434

AN 91229469. 91000.
AU Marovic-G.
IN Institut za medicinska istrazivanja i medicinu rada Sveucilista u Zagrebu.
TI `The importance of bioindicators in the evaluation of radioactive contamination:.
SO Arh-Hig-Rada-Toksikol. 1990 Dec. 41(4). P 371-8.
JT ARHIV ZA HIGIJENU RADA I TOKSIKOLOGIJU.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB The paper is a survey of investigations into radioactive contamination of selected plant and animal species (bioindicators) which have the capacity for multiple accumulation of fission products. Literature data on the contamination of bioindicators are compared with special reference to the accumulation of 131I, 137Cs and 90Sr as a result of atmospheric nuclear experiments and the nuclear accident at *Chernobyl.* Author-abstract. 52 Refs.

435

AN 91226533. 91000.
AU Dickman-S.
TI World researchers to take a closer look at *Chernobyl* `news:.
SO Nature. 1991 May 2. 351(6321). P 4.
JT NATURE.
PT NEWS (NEW).

436

AN 91226532. 91000.
AU Aldhous-P.
TI Five-year toll: 10,000 dead from *Chernobyl*? `news:.
SO Nature. 1991 May 2. 351(6321). P 4.
JT NATURE.
PT NEWS (NEW).

437

AN 91226521. 91000.

TI Facing up to the *Chernobyl* accident `editorial:.
SO Nature. 1991 May 2. 351(6321). P 1.
JT NATURE.
PT EDITORIAL (EDI).

438

AN 91211521. 91000.
AU Tuffs-A.
TI Germany: effects of the *Chernobyl* accident `news:.
SO Lancet. 1991 May 4. 337(8749). P 1086-7.
JT LANCET.
PT NEWS (NEW).

439

AN 91211520. 91000.
AU Rich-V.
TI USSR: *Chernobyl's* psychological legacy `news:.
SO Lancet. 1991 May 4. 337(8749). P 1086.
JT LANCET.
PT NEWS (NEW).

440

AN 91210062. 91000.
AU Hansen-H-S. Hove-K.
IN Department of Animal Science, Agricultural University of Norway,
As-NLH.
TI Radiocesium bioavailability: transfer of *Chernobyl* and tracer
radiocesium to goat milk.
SO Health-Phys. 1991 May. 60(5). P 665-73.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB The bioavailability of *Chernobyl-derived* radiocesium in hay, fungal
fruit bodies, willow bark, and soil was compared to tracer
radiocesium ($^{134}\text{CsCl}$) by measuring transfer coefficients (F_m) to goat
milk. The average F_m value from $^{134}\text{CsCl}$ of $11.9 \times 10^{-2} \text{ d L}^{-1}$ was
taken to represent the maximal transfer to milk on the provided diet.
In 1986, the F_m value from hay was 35% of that from $^{134}\text{CsCl}$, thus
demonstrating the low bioavailability of recently deposited
radiocesium. Values in 1987 were also lower, with a mean of 76% of
that from tracer Cs. During 1988 and 1989, maximal F_m values were
observed, suggesting increased bioavailability from the year of
fallout to the following years. Transfer of radiocesium from two
fungal species harvested in 1988 and 1989 were 78% and 87%,
respectively, of that from tracer Cs, while bark was lower (62%).
Transfer from organic soil was only 7% of tracer radiocesium, and
therefore contribution from soil ingestion could only have a small
impact on the content of radiocesium in animals. Live monitoring
measurements and the excretion of ^{134}Cs in milk, urine, and feces
during a 50-d period was adequately described by a two-exponential
equation. Author-abstract.

441

AN 91203446. 91000.

AU Zubovskii-G-A. Tararukhina-O-B.

TI `Ultrasonic scanning of the thyroid in the children of Bryansk Province in 1989:.

SO Med-Radiol (Mosk). 1991. 36(3). P 32-5.

PT JOURNAL-ARTICLE (ART).

AB Ultrasound scanning has shown that the rate of pathological thyroid changes in schoolchildren of the endemic zone is a 2.5-fold high as that in Moscow schoolchildren. Children affected at the *Chernobyl* accident demonstrated a significant increase in the thyroid size, the frequency of hypoplasia and thypoiditides as compared to indices in children from the endemic area without radioactive contamination. Author-abstract.

442

AN 91203445. 91000.

AU Baranov-A-E. Guskova-A-K. Protasova-T-G.

TI `Experience in treating the victims of the accident at the *Chernobyl* Atomic Electric Power Station and the immediate disease outcomes:.

SO Med-Radiol (Mosk). 1991. 36(3). P 29-32.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the results of therapy of 115 patients with acute radiation syndrome after the *Chernobyl* accident. The chief methods of the effective therapy of bone marrow syndrome are antimicrobial drugs and fresh donor platelet mass transfusions. Hemopoietic stem cell transplantation (allogenic bone marrow or embryonic hepatocytes) is indicated and effective in a very limited number of patients in accident irradiation. Severe beta-burns of the skin remain an unsolved problem as a result of their spreading. Organizational principles of therapy of a great number of patients with acute radiation syndrome in a specialized hospital were described. Author-abstract.

443

AN 91200355. 91000.

AU Walker-M-I. Walters-B. Mondon-K-J.

IN Environmental Safety Division, Harwell Laboratory, Oxon, UK.

TI The assessment of radiocaesium intake from food using duplicate diet and whole-body monitoring techniques.

SO Food-Addit-Contam. 1991 Jan-Feb. 8(1). P 85-95.

JT FOOD ADDITIVES AND CONTAMINANTS.

PT JOURNAL-ARTICLE (ART).

AB A duplicate diet study has been carried out on a group of Harwell employees in order to investigate the food types in which radiocaesium from *Chernobyl* was most likely to be found, and also the intake of radiocaesium in food with relation to observed whole-body levels. The duplicate diet study indicated that the highest levels of radiocaesium were in milk and meat or fruit and vegetables.

Radiocaesium concentrations in food of all types are small compared to the most restrictive generalized derived limit. Daily intakes of radiocaesium measured by the diet study, of the order of 2-3 Bq day⁻¹, generally agreed with values calculated from whole-body measurements. Committed doses from radiocaesium have been estimated from dietary intakes to be in the range 3-29 µSv year⁻¹, while whole-body measurements indicate a range of 6-18 µSv year⁻¹; these doses are small compared to other sources of internal irradiation and to recommended limits. Author-abstract.

444

AN 91192576. 91000.

AU Zaretskaia-IuM.

TI `Immunological and transfusiological approaches to limiting the risk of leukemia related to the accident at the *Chernobyl* nuclear power plant:.

SO Gematol-Transfuziol. 1990 Dec. 35(12). P 4-7.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A programme including prophylactic, diagnostic aspects and reasons for the therapeutic tactics has been proposed for narrowing leukemia consequences related to the catastrophe at *Chernobyl* NPS. The state of the All-Union Register of typed donors and All-Union standard of typing sera has been considered. It is necessary to make reserves of blood containing no antibodies to cytomegalovirus (CMV-negative blood). Author-abstract.

445

AN 91192570. 91000.

AU Vorontsova-T-V. Galitskaia-N-N. Shavrova-E-N. Zhuk-G-M.

Sharko-R-M. Khmelevskaia-L-A. Ponomarev-V-A.

TI `Evaluation of the immunological status of persons participating in liquidation of the effects of the accident at the *Chernobyl* nuclear power plant:.

SO Gematol-Transfuziol. 1990 Dec. 35(12). P 19-20.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

446

AN 91192569. 91000.

AU Kozyreva-T-V. Nikiforova-N-A. Kalmykova-IIa. Skobeltsyna-E-S.

Sorochan-P-P. Starodubtseva-A-N.

TI `Immunity status in persons participating in liquidation of the effects of the accident at the *Chernobyl* nuclear power plant:.

SO Gematol-Transfuziol. 1990 Dec. 35(12). P 17-9.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The time course study of the immunity status of 57 subjects who were engaged in liquidation of consequences of the catastrophe at *Chernobyl* NPS in May-December, 1986, has revealed a high frequency of

disorders in bactericidal and digestive activities of neutrophils, as well as in the functional activity of T-lymphocytes in the peripheral blood. The incidence rate of subjects with disturbed functional activity of T-lymphocytes is significantly higher in the group of subjects with suppressed capacity of blood lymphocytes for DNA repair as compared to those with normal levels of blood lymphocyte capacity for DNA repair. Author-abstract.

447

AN 91192568. 91000.

AU Moskalenko-I-P. Nikiforova-N-A. Kalmykova-IIa.

TI `Deoxyribonuclease activity in the blood serum of persons participating in liquidation of the effects of the accident at the *Chernobyl* nuclear power plant:.

SO Gematol-Transfuziol. 1990 Dec. 35(12). P 16-7.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Deoxyribonuclease activity in blood serum was comparatively analyzed in 90 subjects who had been engaged in liquidation of consequences of the catastrophe at *Chernobyl* NPS in 1986, and in 55 normal donors. It was found that the mean value of deoxyribonuclease activity in the group of the liquidators was significantly lower as compared to that of donors. A stable decrease of activity of neutral deoxyribonuclease (DNase I, pH 7.3) was detected in 18 and that of acid deoxyribonuclease (DNase II) in 9 out of 90 subjects investigated. The anamnesis of most of the patients with lowered deoxyribonuclease activity has revealed transient leukopenia, decreased parameters of T-cellular immunity and phagocytic activity of neutrophils. Author-abstract.

448

AN 91188554. 91000.

AU Kindzelskii-L-P. Demina-E-A. Zlochevskaia-L-L.

TI `The cytogenetic and clinico-hematological indices of the people subjected to mixed irradiation in the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1991 Jan. (1). P 32-4.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB It was established that adequate treatment during latent period of acute radiation sickness reduces to a significant degree the level of genetic changes in the lymphocytes of the peripheral blood of the victims. After treatment the signs and symptoms of the disease were less manifested. Author-abstract.

449

AN 91188510. 91000.

AU Terentev-V-I.

TI `The cooperation of the medical and chemical services in providing radiation safety in the special zone in eliminating the sequelae of

the accident at the *Chernobyl* Atomic Electric Power Station:.
SO Voen-Med-Zh. 1990 Dec. (12). P 13-5.
JT VOENNO-MEDITSINSKII ZHURNAL.
PT JOURNAL-ARTICLE (ART).

450

AN 91180447. 91000.
AU Sugiyama-H. Iwashima-K. Shibata-H.
IN Institute of Public Health, Tokyo, Japan.
TI `Concentration and behavior of radiocesium in higher basidiomycetes
in some Kanto and the Koshin districts, Japan:.
SO Radioisotopes. 1990 Nov. 39(11). P 499-502.
PT JOURNAL-ARTICLE (ART).
AB Concentration of ¹³⁷Cs, ¹³⁴Cs and potassium were measured in several
higher fungi and in substrates, soils, woods and litters in some
Kanto and the Koshin districts, Japan, following the *Chernobyl*
accident during October to November 1989. ¹³⁷Cs concentrations in
fungi were in the range of 0.7-101 Bq kg⁻¹.fresh. Maximum ¹³⁷Cs
level in them was observed in *Boletopsis leucomelas* (Pers.: Fr.)
Fayod. Significnatly higher levels of concentration ratios of ¹³⁷Cs
in fungi to substrates (e.g.; ¹³⁷Cs concentration.fresh in
fungus/¹³⁷Cs concentration.dry in soil), 10⁽⁻¹⁾ to 10 x 10⁽⁻¹⁾, were
found nearly 10 to 1000 times as much as leaf vegetables, root crops
and potatoes to substrates. It was confirmed that levels of
concentration ratios of potassium were similar to those of ¹³⁷Cs. In
all fungi, ¹³⁴Cs which released from the *Chernobyl* accident and is
not present in nuclear weapons fallout was not detected.
Author-abstract.

451

AN 91179601. 91000.
AU Diani-F. Albiero-A. Perdelli-F. Cristina-M-L. Gallelli-G.
IN Clinica Ostetrica e Ginecologica, Universita di Verona.
TI `Determination of cesium in human placenta 3 years after *Chernobyl:.*
SO Minerva-Ginecol. 1990 Nov. 42(11). P 439-41.
JT MINERVA GINECOLOGICA.
PT JOURNAL-ARTICLE (ART).
AB Three years after the nuclear reactor accident in *Chernobyl,* 80 human
placentae were tested to determine concentrations of cesium 134 and
cesium 137 radionuclides. The activities of radionuclides were
measured using a low-back ground gamma-ray spectrometry system.
Human placentae were obtained from normal and at term pregnancies in
women who lived in rural areas of northern-Italy and north-west of
Yugoslavia and who in particular used locally grown vegetables and
meats. According to the data of other Authors, the low cesium
isotopes 134 and 137 levels detected (inferior to 2 Bq/kg) in human
placentae suggest that, in the observed geographic areas, the fetal
risk following the reactor accident in *Chernobyl* was negligible.
Author-abstract.

452

AN 91177153. 91000.

AU Mondon-K-J. Walters-B.

IN Food Science Division, Ministry of Agriculture, Fisheries and Food, London, UK.

TI Measurement of radiocaesium, radiostrontium, and plutonium in whole diets, following deposition of radioactivity in the UK originating from the *Chernobyl* power plant accident.

SO Food-Addit-Contam. 1990 Nov-Dec. 7(6). P 837-48.

JT FOOD ADDITIVES AND CONTAMINANTS.

PT JOURNAL-ARTICLE (ART).

AB Radionuclide contamination of whole diets as a result of the *Chernobyl* accident has been measured following the collection of individual diets from adults and children during 1 week in June 1986. The study was conducted in three different parts of the UK, to represent rural areas of both high and low deposition of *Chernobyl* fallout, and an urban area where the food supply was likely to be derived from a more diverse range of sources. The overall caesium-137 plus caesium-134 concentrations in the diets was less than 5 Bq kg⁻¹ fresh weight, and ranged from less than 0.8 Bq kg⁻¹ to 22 Bq kg⁻¹, the highest levels being found in diets from the high deposition area. The isotopic ratios confirmed contamination to have been predominantly of *Chernobyl* origin. These levels of radiocaesium would have given rise to an average committed effective dose equivalent to age 70 of less than 0.4 microSv, with a range of less than 0.05 microSv to 1.9 microSv, from intakes in the study week. The opportunity was also taken to analyse the samples for weapons fallout contamination, that is, strontium-89/strontium-90 and plutonium-239/plutonium-240. No diet contained strontium above the reporting level of 0.2 Bq kg⁻¹ but 18% of the diets contained plutonium above the limits of detection (0.1 mBq kg⁻¹), the highest of these being 12 mBq kg⁻¹, found in a diet from one of the low deposition areas. Author-abstract.

453

AN 91176565. 91000.

AU Bradackova-I. Brada-P. Hofstetr-A.

IN Oddeleni nuklearni mediciny Okresniho ustavu narodniho zdravi, Jihlava.

TI `5-year study of radiation loading due to nuclear medicine examinations in children in the Jihlava District:.

SO Cesk-Pediatr. 1990 Aug. 45(8). P 473-6.

JT CESKOSLOVENSKA PEDIATRIE.

PT JOURNAL-ARTICLE (ART).

AB The authors evaluate the radiation risk of children under 15 years whom they examined in 1984-1988 at the department of nuclear medicine in Jihlava by "in vivo" methods and compare the values with the radiation risk from the natural background and the *Chernobyl* disaster. The authors found that the radiation risk from a single renographic examination is by two orders lower than the radiation

risk from the natural background in the course of a whole year, which is approximately double the risk ensuing from the *Chernobyl* disaster. The radiation risk of a single scintigraphic examination is insignificantly higher than the risk from the natural background in one year. Although the ratio of renographic examinations in the group accounts for 92%, it accounts only for 11% of the total radiation load of the group. Conversely scintigraphic examinations account for 88% of the total radiation load but only for 7.9% in the group. The total radiation load of the investigated group in one year due to administration of radiopharmaceutical preparations is lower than its contemporary total load from a the natural background and the *Chernobyl* disaster. Author-abstract.

454

AN 91171000. 91000.

AU Hiam-J.

TI U.S. and IAEA *Chernobyl* delegations assess radiation effects `news: `published erratum appears in J Nucl Med 1991 Jun;32(6):32N:.

SO J-Nucl-Med. 1991 Mar. 32(3). P 11N-14N, 26N.

JT JOURNAL OF NUCLEAR MEDICINE.

PT NEWS (NEW).

455

AN 91163594. 91000.

AU Pohl-Ruling-J. Haas-O. Brogger-A. Obe-G. Lettner-H. Daschil-F. Atzmuller-C. Lloyd-D. Kubiak-R. Natarajan-A-T.

IN Division of Biophysics, University of Salzburg, Austria.

TI The effect on lymphocyte chromosomes of additional radiation burden due to fallout in Salzburg (Austria) from the *Chernobyl* accident.

SO Mutat-Res. 1991 Mar. 262(3). P 209-17.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB An investigation has been carried out to determine whether chromosome aberrations in peripheral blood lymphocytes reflect the elevated environmental dose of low-LET ionising radiation, mainly due to radiocesium from *Chernobyl* fallout, to the population living in Salzburg city. Sixteen volunteers were sampled 1 year after the *Chernobyl* accident. Two of these persons were also sampled before the accident, and then in 1988 and 1990. The radioactive environment of Salzburg city and the radiation burden of its inhabitants have been frequently determined before and after the accident. The Cs-137 content of the volunteers was measured by whole-body counting. The additional external plus internal radiation doses in the year 1987 to the tested individuals ranged between 15 and 68% of the former normal environmental burden. The aberration frequencies showed a sharp increase of about a factor 6 from the *pre-Chernobyl* dose rate (0.9. mGy/year) to the *post-Chernobyl* dose rate (about 2 mGy/year total) but then decreased again with higher additional dose. In the two persons analysed before and up to 4 years after the accident the aberration yield showed a significant increase from 1984/85 to 1987,

a decrease in 1988 and a further decrease in 1990. If these last 2 values are plotted against additional dose they fit the curve of the pooled 1987 values. The dose-effect curves revealed the same tendency as we found in various previous investigations and support the assumption that repair enzymes could be triggered by a certain amount of damage to the DNA. Author-abstract.

456

AN 91161337. 91000.
AU Reponen-A. Jantunen-M.
IN National Public Health Institute, Department of Environmental Hygiene and Toxicology, Kuopio, Finland.
TI Removal rates of *Chernobyl* fallout radioactivity on urban surfaces.
SO Health-Phys. 1991 Apr. 60(4). P 569-73.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

457

AN 91161330. 91000.
AU Ioannides-K-G. Pakou-A-A. Papadopoulou-C-V.
IN Nuclear Physics Laboratory, University of Ioannina, Greece.
TI Radioiodine retention in ovine thyroids in northwestern Greece following the reactor accident at *Chernobyl*.*
SO Health-Phys. 1991 Apr. 60(4). P 517-21.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Iodine-131 concentrations were measured throughout the summer of 1986 in thyroids of lambs slaughtered at Ioannina (Northwestern Greece) following the accident at the *Chernobyl* nuclear reactor. During the survey, 40 thyroids were collected. The highest level of 131I detected was 2471 +/- 339 Bq per thyroid. The thyroids of 20 lambs did not contain detectable 131I concentrations, while the contamination content of the others was greatly variable. The transport of 131I from pasture to thyroids of lambs has been described through a simple model for the retention of 131I in the glands. The transfer coefficient f_T , expressing the steady-state equilibrium, was estimated to be 564 +/- 270 kg⁻¹ d. This result reflects the sensitivity of animal thyroids as biological radioiodine monitors. Author-abstract.

458

AN 91159696. 91000.
AU Moreno-A. Navarro-E. Senent-F. Baeza-A. Miro-C. del-Rio-M.
IN Corpuscular Physics Institute, Centro Mixto C.S.I.C. - Universitat de Valencia, Spain.
TI Short and medium effects on the environment of Valencia, Spain, of the *Chernobyl* nuclear plant accident.
SO Bull-Environ-Contam-Toxicol. 1991 Jan. 46(1). P 14-21.
JT BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY.
PT JOURNAL-ARTICLE (ART).

459

AN 91158929. 91000.

AU Stoll-C. Alembik-Y. Dott-B. Roth-M-P.

IN Institut de Puericulture, Centre Hospitalier Universitaire,
Strasbourg, France.

TI Epidemiology of Down syndrome in 118,265 consecutive births.

SO Am-J-Med-Genet-Suppl. 1990. 7. P 79-83.

JT AMERICAN JOURNAL OF MEDICAL GENETICS. SUPPLEMENT.

PT JOURNAL-ARTICLE (ART).

AB The epidemiology of Down syndrome (DS) was studied in the area which is covered by our registry of congenital malformations. For each of the 139 new DS cases which were ascertained during the period 1979 to 1987 more than 50 factors were studied and compared to those from control infants. The prevalence of DS was 1.17%; 3.6% of the DS cases were stillbirths and 14.4% were induced abortions. Karyotypes were obtained in 137 cases of which all but 7 were 47, + 21, 4 were mosaics (2.8%), and 5 had translocations (3.6%). Interchromosomal effect was a question in 3 cases. The most common types of associated malformations were cardiac anomalies (44.6%) and intestinal atresia. We did not observe seasonality or time/space clusters in spite of the *Chernobyl* nuclear accident. No paternal age effect was demonstrated. In our material the first-born infants were at lower risk of DS than the later born. Five percent of the mothers of DS had 2 previous spontaneous abortions (controls 2.8%). At birth, the DS infants measured less and their head circumference was lower than in control infants. Weight of placenta was also lower than in control infants. In our material there were 7.9% of consanguineous marriages ($P = .010$). The pregnancies of the DS children were often complicated by threatened abortions; 6.4% of the mothers of the DS children were diabetic ($P = .069$). For all other factors studied no statistically significant difference with respect to controls could be demonstrated. Author-abstract.

460

AN 91157100. 91000.

AU Nadezhina-N-M. Selidovkin-G-D. Guskova-A-K.

TI `Experience with the organization of medical services for victims of the accident at the *Chernobyl* nuclear power plant:.

SO Sov-Med. 1990. (10). P 56-9.

JT SOVETSKAIA MEDITSINA.

PT JOURNAL-ARTICLE (ART).

461

AN 91152679. 91000.

AU Helwig-D.

TI Soviets seek health care help for the "prisoners of *Chernobyl*.*

SO Can-Med-Assoc-J. 1991 Mar 15. 144(6). P 748, 752.

JT CANADIAN MEDICAL ASSOCIATION JOURNAL.

PT JOURNAL-ARTICLE (ART).

AN 91149314. 91000.

AU Kalechits-O-M. Alkhimovich-V-A.

TI `Tuberculosis and the *Chernobyl* tragedy: status and prognosis:.

SO Probl-Tuberk. 1990. (11). P 14-6.

JT PROBLEMY TUBERKULEZA.

PT JOURNAL-ARTICLE (ART).

AB The analysis of the epidemiologic situation was made in view of tuberculosis in those areas of the Byelorussian SSR which suffered from radiation as a consequence of the accident at the *Chernobyl* atomic power plant. A higher level of tuberculosis morbidity among the population (especially among children and adolescents) is recorded in the areas of strict radiation control. The pattern of clinical forms of pulmonary tuberculosis tends to deteriorate in addition to a higher percentage of disseminated smear-positive lung processes. Besides, new difficulties arise due to the organization of an early detection of tuberculosis cases on account of limited X-ray screening of the population to decrease the radiation load on the body. Lower immune status of those subjected to the radiation is demonstrated. The authors predict an unfavorable development of the situation for the nearest future regarding tuberculosis incidence over the radionuclide-polluted territories of the Republic.
Author-abstract.

AN 91149313. 91000.

AU Dvoirin-M-S. Liabakh-P-P. Kharchenko-L-A. Androsova-N-P.

TI `Tuberculosis morbidity in the areas under strict radiation control:.

SO Probl-Tuberk. 1990. (11). P 12-4.

JT PROBLEMY TUBERKULEZA.

PT JOURNAL-ARTICLE (ART).

AB The levels of tuberculosis morbidity in the areas of a strict radiation control imposed as a consequence of the accident at the *Chernobyl* atomic power station are determined by the following two factors: outflow of young people (including children) whose tuberculosis morbidity is rather low; and lesser coverage of the population by preventive fluorographic examinations. In the majority of the areas of a strict radiation control, lesser coverage of the population by preventive fluorographic examinations has a predominant influence on the tuberculosis morbidity rates which appear to be lower than in 1985. At the same time the percentage of the destructive forms in newly diagnosed patients with respiratory tuberculosis happens to increase, while the proportion of those developing focal pulmonary tuberculosis appears to decrease. Tuberculosis case-finding is the urgent problem which should be achieved by means of non-radiation methods of detecting this disease.
Author-abstract.

AN 91142357. 91000.

AU Ginzburg-H-M. Reis-E.

IN Office of Emergency Preparedness, Health Resources and Services
Administration, Public Health Service, Rockville, MD 20857.

TI Consequences of the nuclear power plant accident at *Chernobyl*
`published erratum appears in Public Health Rep 1991
May-Jun;106(3):352:.

SO Public-Health-Rep. 1991 Jan-Feb. 106(1). P 32-40.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

AB The *Chernobyl* Nuclear Power Plant accident, in the Ukrainian Soviet Socialist Republic (SSR), on April 26, 1986, was the first major nuclear power plant accident that resulted in a large-scale fire and subsequent explosions, immediate and delayed deaths of plant operators and emergency service workers, and the radioactive contamination of a significant land area. The release of radioactive material, over a 10-day period, resulted in millions of Soviets, and other Europeans, being exposed to measurable levels of radioactive fallout. Because of the effects of wind and rain, the radioactive nuclide fallout distribution patterns are not well defined, though they appear to be focused in three contiguous Soviet Republics: the Ukrainian SSR, the Byelorussian SSR, and the Russian Soviet Federated Socialist Republic. Further, because of the many radioactive nuclides (krypton, xenon, cesium, iodine, strontium, plutonium) released by the prolonged fires at *Chernobyl,* the long-term medical, psychological, social, and economic effects will require careful and prolonged study. Specifically, studies on the medical (leukemia, cancers, thyroid disease) and psychological (reactive depressions, post-traumatic stress disorders, family disorganization) consequences of continued low dose radiation exposure in the affected villages and towns need to be conducted so that a coherent, comprehensive, community-oriented plan may evolve that will not cause those already affected any additional harm and confusion. Author-abstract.

465

AN 91141179. 91000.

AU Romanenko-Ae. Likhtarev-I-A. Shandala-N-K. Gulko-G-M. Kairo-I-A.
Cheban-A-K. Chepurnoi-N-I. Degtiareva-O-S. Kopylova-O-V.

TI `Thyroid irradiation doses and organization of endocrinological
monitoring of the inhabitants of the Ukrainian S.S.R. after the
accident at the *Chernobyl* AES:.

SO Med-Radiol (Mosk). 1991. 36(2). P 41-9.

PT JOURNAL-ARTICLE (ART).

AB The paper is devoted to one of the most important aspects of the accident at the *Chernobyl* Nuclear Power Station: thyroid irradiation in the residents of 8 areas in the Ukrainian SSR and the town of Pripyat, affected with radioactive iodine. Irradiation doses, prognosis of medical effects of the accident, methods and practical measures for the organization of endocrinological monitoring of the affected population were thoroughly considered. The authors proposed

a scheme of health care of the population in these areas. They also discussed the structure of data bases for analysis of medico-dosimetric information on "iodine" effects of the accident. The main trends in medico-dosimetric problems of the effects of thyroid irradiation were outlined. Author-abstract.

466

AN 91141177. 91000.

AU Popov-V-I. Kochetkov-O-A. Molokanov-A-A. Abramov-IuV. Lapa-L-G.

TI `Establishing of doses from the internal irradiation for the personnel of the *Chernobyl* AES and persons detailed in 1986-1987:.

SO Med-Radiol (Mosk). 1991. 36(2). P 33-41.

PT JOURNAL-ARTICLE (ART).

AB The paper is concerned with the results of measurements of characteristics of the air media in the zone of the damaged reactor as with the assessment of doses from internal irradiation on the basis of calculations of air media parameters and the results of actual measurements of the uptake and content of radionuclides in the personnel of the *Chernobyl* Nuclear Power Station and persons sent on mission there in 1986-1987, the results being obtained by indirect and direct biophysical methods of control of internal irradiation. The calculated data are well in accord with the results of actual measurements of the contents of radionuclides in the body. Internal irradiation of all tissues and organs, determined by the inhalation of a mixture of radionuclides, worked almost completely within the first year following the accident, the thyroid being the critical organ. In the next years internal irradiation for the personnel of the *Chernobyl* Nuclear Power Station was determined entirely by transuranic elements and was about 0.1 M.P.D annually for bone tissue. The value of a mean effective equivalent dose from internal irradiation in 50 years is 85 mSv for professionals, and a contribution of internal irradiation to the whole-body one over the first well as is 13%. Author-abstract.

467

AN 91141159. 91000.

AU Petrov-R-V. Oradovskaia-I-V. Pinegin-B-V.

TI `Program of long-time immunologic monitoring of population groups exposed to risk factors at the *Chernobyl* AES radiation accident:.

SO Med-Radiol (Mosk). 1991. 36(1). P 39-42.

PT JOURNAL-ARTICLE (ART).

468

AN 91141158. 91000.

AU Chirkov-A-A. Chistopolskii-A-S. Nugis-VIu.

TI `Effects of the dose on the prognosis of dynamics of blood neutrophil count based on cytogenetic analysis of lymphocytes of victims of the *Chernobyl* AES accident:.

SO Med-Radiol (Mosk). 1991. 36(1). P 36-8.

PT JOURNAL-ARTICLE (ART).

AB The authors investigated prognostic significance of irradiation intensity with relation to the severity of a course of the bone marrow syndrome in the affected population at the *Chernobyl* accident. Absorbed doses were determined by analysis of lymphocyte chromosome aberrations and the time course of the blood neutrophil count. The evaluation of the severity of blood disorders by cytogenetic and hematological tests was shown to coincide in 85% of patients. Due to lack of information on irradiation physical data, an absorbed dose mean rate was assessed for the entire period of stay in the high radiation zone. In 81 patients mean dose rate values varied within 0.1-22 Gy/h. Further analysis has shown that a mean dose rate value in this range did not influence the prognosis of a course of the bone marrow syndrome in the affected persons (by the results of cytogenetic investigation of lymphocyte cultures). Author-abstract.

469

AN 91141156. 91000.

AU Konchalovskii-M-V. Baranov-A-E. Solovev-VIu.

TI `Neutrophil and lymphocyte dose curves in relatively uniform human whole body irradiation (based on data of the accident at the *Chernobyl* AES):.

SO Med-Radiol (Mosk). 1991. 36(1). P 29-33.

PT JOURNAL-ARTICLE (ART).

AB The authors have summed up the experience in a study of regularities of the bone marrow syndrome in persons exposed to rather homogeneous gamma-beam irradiation during the accident at the *Chernobyl* Nuclear Power Station (127 cases). Hematological data were processed by computer, and empiric dose curves of neutrophils and lymphocytes were obtained within the range of 0.5-12 Gy by regressive analysis. These curves were compared with the previous data on the time course of these cells after whole-body irradiation. New data were obtained on the nature of a course of a granulocyte recovery phase at a dose level over 5 Gy. Some features of the time course of lymphocytes in persons exposed to radiation during the accident at the *Chernobyl* Nuclear Power Station, were considered. Author-abstract.

470

AN 91139381. 91000.

AU Jantunen-M. Reponen-A. Kauranen-P. Vartiainen-M.

IN National Public Health Institute, Department of Environmental Hygiene and Toxicology, Kuopio, Finland.

TI *Chernobyl* fallout in southern and central Finland.

SO Health-Phys. 1991 Mar. 60(3). P 427-34.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB To study the levels and distributions of radionuclides released in the *Chernobyl* accident, we sampled surface peat from 62 sites in Southern and Central Finland and measured ¹³¹I, ¹³⁴Cs, ¹³⁷Cs, ¹³²Te, ¹⁴⁰Ba, ¹⁰³Ru, ⁹⁰Sr, ¹⁴¹Ce, and ⁹⁵Zr. The distribution of fallout activities was highly uneven, depending on movement of the

contaminated air mass and rainfall distribution during the critical days. The highest values observed were 420 kBq m⁻² of ¹³¹I and 70 kBq m⁻² of ¹³⁷Cs. The nuclide ratios showed wide and partly unexpected variations. The high-boiling-point, or nonvolatile, elements Ce and Zr were spread mostly on a 200-km-wide zone extending across Finland from southwest to northeast. The more volatile elements, I, Ce, and Te, showed quite a different, more widespread, fallout distribution, while an intermediate behavior was observed for Ba, Ru, and possibly Sr. These results can be explained by assuming that pulverized nuclear fuel material released in the reactor explosion on 26 April reached Finland via Poland and the Baltic Sea and traversed the country along the above-mentioned narrow zone, while volatile material, evaporated in the reactor fire from 26 April to 5 May, arrived in several waves and was consequently more widely and evenly spread. From their elemental melting and boiling points, Ru and Mo would appear to belong to the nonvolatile group and Sr to the volatile. Yet, their actual behaviors were opposite; Ru in particular was found in the nonvolatile as well as the volatile fallout, possibly because Ru activities were present in the fuel partly in the metallic state and partly as volatile oxides.
Author-abstract.

471

AN 91136983. 91000.

AU Berg-D. Kollmer-W-E. Henrichs-K. Voigt-G.

IN Inst. fur Strahlenbiologie, Gesellschaft fur Strahlen, Neuherberg, West Germany.

TI Whole body content and turnover of Cs and K.

SO Biol-Trace-Elem-Res. 1990 Jul-Dec. 26-27. P 249-56.

JT BIOLOGICAL TRACE ELEMENT RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB In persons who had accumulated radiocesium from the fallout of the *Chernobyl* nuclear reactor accident, the amount of radiocesium and radiopotassium was measured in the total body and in urine. The stable Cs content in the urine was determined at the same time by instrumental nuclear activation analysis. From the data obtained, the total body Cs pool was calculated to be 1500 micrograms, that of K 110 g. The Cs turnover rate was found to be 0.64%/d for men and 0.81 for women; the K turnover 2.4 and 2.7, respectively. The Cs:K ratio in the total body was 4 times higher than that in urine, demonstrating that, in relation to the intake, the body is able to accumulate more Cs than K. Author-abstract.

472

AN 91135112. 91000.

AU Mashchenko-N-P. Murashko-V-A. Khomenko-I-M.

TI `The hygienic regulation of the irradiation of the population at the rehabilitative stage of eliminating the sequelae from the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Vrach-Delo. 1990 Sep. (9). P 97-9.

JT VRACHEBNOE DELO.

PT JOURNAL-ARTICLE (ART).

AB The National Commission on Radiation Defense (NCRD) of the USSR Health Ministry proposed standard values--maximum limit of life dose for the population equalling 35 ber per 70 years. Despite the seeming accordance of this value to NCRD recommendations according to which the equivalent dose of irradiation of a limited part of the population should not exceed 0.5 ber yearly, the NCRD does not take into consideration the irregular character of radiation. Numerous data from the literature are presented on the presence of some nonstochastic and stochastic effects even in such comparatively low doses showing the impossibility of acceptance of such standard values. Author-abstract.

473

AN 91134668. 91000.

AU Perucchi-M. Domenighetti-G.

TI The *Chernobyl* accident and induced abortions: only one-way information `letter; comment:.

SO Scand-J-Work-Environ-Health. 1990 Dec. 16(6). P 443-4.

JT SCANDINAVIAN JOURNAL OF WORK, ENVIRONMENT AND HEALTH.

PT COMMENT (COM). LETTER (LET).

474

AN 91132957. 91000.

AU Scholer-M.

TI `Impressions from White Russia. After *Chernobyl--an* appearance:.

SO Krankenpfl-Soins-Infirm. 1990 Dec. 83(12). P 76-9.

JT KRANKENPFLEGE. SOINS INFIRMIERS.

PT JOURNAL-ARTICLE (ART).

475

AN 91130878. 91000.

AU Pomerantseva-M-D. Chekhovich-A-V. Ramaiia-L-K. Shevchenko-V-A. Shaks-A-I. Lobaneva-N-V.

TI `Genetic effects in mice exposed to the 10-km area around the *Chernobyl* Atomic Energy Station:.

SO Genetika. 1990 Oct. 26(10). P 1870-5.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Mice (CBAx57BL) F of both sexes were exposed within the 10 km zone of *Chernobyl* nuclear power station. Genetic damage of phone chronic effect of increased radiation in exposed adult mice and in the course of embryogenesis was studied. The total absorbed radiation doses in testes varied from 1.85 to 0.42 Gy in embryos and from 3.4 to 2.7 Gy in adult males. Increase of dominant lethal mutations (DLM) and abnormal sperm heads (ASH) was only observed right after the end of exposure of adult males. The yield of reciprocal translocations (RT) in these males was relatively low. Among the males exposed at the stage of early embryogenesis, 4 heterozygotes for RT were revealed.

In other males of this group the RT yield was low. Author-abstract.

476

AN 91126809. 91000.

AU Shkvarnikov-P-K.

TI `A cytological study of plants growing under exposure to different radiation levels:.

SO Tsitol-Genet. 1990 Sep-Oct. 24(5). P 33-7.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Genetically significant consequences of emergency at the *Chernobyl* Atomic Power Plant have been studied on wheat and rye plants. Plants grown in the 30-km zone of the plant after its emergency are determined to have high frequency of chromosome aberrations reaching 2.666% in rye and 1.075-2.572% in wheat and 2.235-3.187% as dependent on the variety, biotype (awnless, semi-awned and awned) and places of occurrence. These levels of aberrations are 5.34, 2.42-5.78 and 4.07-6.71 times higher than their frequency in control plants (0.499, 0.444 and 0.475%, respectively). Author-abstract.

477

AN 91115584. 91000.

AU Beno-M. Hrabovcova-A. Piknova-D. Mikulecky-M. Kubacek-L. Valachova-A.

IN Research Institute of Preventive Medicine, Bratislava, Czech and Slovak Federal Republic.

TI Human postmortem thyroid 131I content and risk estimates in Bratislava, Czechoslovakia following the *Chernobyl* accident.

SO Health-Phys. 1991 Feb. 60(2). P 203-8.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB From 3 May to 4 August 1986, thyroids of 416 postmortem subjects in Bratislava (population: approximately 400,000) were measured for 131I. Subsequently, dose rates in this organ for the day of exitus were calculated. Mean dose commitments were estimated by integrating linear or quadratic-periodic regression lines drawn through scatterplots of logarithmically transformed daily dose rates. The mean dose-commitment estimates in thyroids of adults were 0.74 and 0.58 mGy for linear and quadratic-periodic regression, respectively. The same for thyroids obtained from donors of fetal to 18 y of age were 1.67 and 1.77 mGy for liner and quadratic-periodic regression, respectively. A comparison of the actual thyroid radiation burden with its theoretical values calculated in the first days of contamination of the environment showed that the models used were safe enough to protect the population. Estimates of absolute risk for thyroid cancer showed that excess incidence that could be expected as a result of the *Chernobyl* accident shall remain obscured by the "spontaneous" incidence of this disease at geographic localization. Author-abstract.

478

AN 91115583. 91000.
AU Havlik-E. Bergmann-H.
IN Second Department of Internal Medicine, University of Vienna Medical School, Austria.
TI Assessment of radiocesium incorporation in Austrians after the *Chernobyl* accident.
SO Health-Phys. 1991 Feb. 60(2). P 199-202.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Residents of Vienna, Austria were whole-body counted for radiocesium content due to fallout deposited after the *Chernobyl* accident. Data for a 2-y period were compared with prior estimates of radiocesium body burden based on food consumption. Our results suggest that the prior estimates be revised and the rejection limit be increased by a factor of 2 for contaminated food. Author-abstract.

479

AN 91115192. 91000.
AU Kovaleva-L-I. Liubchenko-P-N. Dubinina-E-V.
TI `Cardiovascular changes based on ECG data in workers involved in the elimination of the sequelae of the accident at the *Chernobyl* Atomic Electric Power Station:.
SO Gig-Tr-Prof-Zabol. 1990. (10). P 3-6.
JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA.
PT JOURNAL-ARTICLE (ART).
AB 122 persons who had participated in the *Chernobyl* nuclear power station disaster control were passed through ECG examinations, as a result of which susceptibility to bradycardia was revealed. To exclude a marked vagal influence on the myocardium, orthostatic, atropine and ephedrine tests were performed. Weakened reactions to atropine and ephedrine indicated a secondary vagotomy caused by the lowered sensitivity of beta-adrenoreceptors. Author-abstract.

480

AN 91108265. 91000.
AU Cristaldi-M. Ieradi-L-A. Mascanzoni-D. Mattei-T.
IN Department of Ecology, Calabria University, Italy.
TI Environmental impact of the *Chernobyl* accident: mutagenesis in bank voles from Sweden.
SO Int-J-Radiat-Biol. 1991 Jan. 59(1). P 31-40.
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
PT JOURNAL-ARTICLE (ART).
AB An investigation was carried out in Sweden aimed at studying the possible genetic effects of the *Chernobyl* fallout on wild small mammals. The bank voles (*Clethrionomys glareolus* Schreb.) were obtained from three differently contaminated areas in Sweden and, for control, in an area with negligible contamination by fallout. Radionuclide determinations to assess the content of ¹³⁷Cs and mutagenicity tests (bone marrow micronucleus test and sperm

abnormality assay) were performed. The results obtained showed a positive correlation between the increase of micronucleated polychromatic erythrocytes (MPCE/1000 PCE) and both ¹³⁷Cs content in muscle and in soil contamination. The estimated doses absorbed by the animals were far lower than those required for the same effect in laboratory experiments. An explanation of this discrepancy between dose and measured biological effect is not available, yet similar results have been repeatedly reported after the *Chernobyl* accident and should be a matter for further discussion. An increased frequency of micronucleated cells might occur at minimal dose gradients, and the micronucleus test appears to be a valid tool to show such effects. Author-abstract.

481

AN 91102530. 91000.
AU Mascanzoni-D. von-Bothmer-S. Mattei-T. Cristaldi-M.
IN Department of Radioecology, Swedish University of Agricultural Sciences, Uppsala.
TI Small mammals as biological indicators of radioactive contamination of the environment.
SO Sci-Total-Environ. 1990 Dec 1. 99(1-2). P 61-6.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB An investigation was carried out in Sweden aimed at studying the contamination of small mammals (orders Rodentia and Insectivora) following the *Chernobyl* accident. The animals were captured in three differently contaminated areas in Sweden and, for control, in an area with negligible fallout. The results obtained show that the activity in the captured animals was correlated with surface deposition. The differences between the species investigated and the influence of feeding habits on the contamination levels are discussed. Author-abstract.

482

AN 91102196. 91000.
AU Shevchenko-V-V. Grinikh-L-I.
TI `Cytogenetic effects in native populations of *Crepis tectorum* exposed to chronic irradiation in the vicinity of the *Chernobyl* Nuclear Power Station. Induction of chromosome aberrations during the first 2 years following the accident:.
SO Radiobiologia. 1990 Nov-Dec. 30(6). P 728-34.
JT RADIOBIOLOGIA.
PT JOURNAL-ARTICLE (ART).
AB During the first year after the accident the maximum frequency of *Crepis tectorum* cells with chromosome aberrations amounted to 10.2 to 15.3% at a dose-rate of 5-10 mR/h (gamma-radiation), cells with multiple aberrations being rather frequent. During the second year, in the areas where a dose-rate was 20 to 0.02-0.03 mR/h, the number of cells with chromosome aberrations amounted to 1.4-2.2% at the highest dose-rates. Besides, plants were found with the altered

karyotype which was indicative of active microevolutionary processes in chronically exposed populations. Author-abstract.

483

AN 91102195. 91000.

AU Grinikh-L-I. Shevchenko-V-V.

TI `The cytogenetic effect of chronic irradiation revealed using an analysis of the first two mitoses in the root meristem of germinating seeds of *Crepis tectorum* from the 30-kilometer zone of the accident at the *Chernobyl* Nuclear Power Station:.

SO Radiobiologia. 1990 Nov-Dec. 30(6). P 723-7.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Peculiarities of the appearance of *C. tectorum* rootlet in the course of seed germination have prompted the authors to use the method of continuous germination of seeds in 0.01% colchicine solution and to analyze chromosome aberrations in the first tetraploid cells derived from early dividing cells. Since it has been shown that cells of the embryo's root meristem of dormant *Crepis tectorum* seeds are at the G1 stage, the observed, by the method used, chromatid aberrations in the cells that early enter mitosis, are probably induced by the incorporated radioactive products at stages S and (or) G2 during seed germination. Author-abstract.

484

AN 91100676. 91000.

AU Pearlman-R-A.

IN Seattle Veterans Affairs Medical Center, WA 98108.

TI Clinical fallout from the Supreme Court decision on Nancy Cruzan: *Chernobyl* or Three Mile Island?

SO J-Am-Geriatr-Soc. 1991 Jan. 39(1). P 92-7.

JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY.

PT JOURNAL-ARTICLE (ART).

485

AN 91094610. 91000.

AU Nadezhina-N-M.

TI `Experience in organizing medical care for the victims of the accident at the *Chernobyl* Atomic Electric Power Station at a specialized hospital:.

SO Med-Radiol (Mosk). 1990 Dec. 35(12). P 40-1.

PT JOURNAL-ARTICLE (ART).

AB Organization of health care for victims of radiation accidents requires well-adjusted organizational activities, including an inpatient clinic with well-equipped reception, dosimetric, karyological and bacteriological laboratories, an intensive care department, a surgical (burn) department, a blood transfusion laboratory and equipment for plasmapheresis and hemosorption. Therapy of such patients should be developed along the following lines: 1) prevention and therapy of infectious complications: 2)

blood cell substitution therapy; 3) bone marrow transplantation; 4) detoxicating therapy; 5) correction of water-electrolyte metabolism; 6) therapy of local radiation injuries. Author-abstract.

486

AN 91094604. 91000.

AU Bebesko-V-G. Chumak-A-A. Bazyka-D-A. Khaliavka-I-G. Savran-A-V. Beliaeva-N-V. Tsiva-S-A. Prakhova-V-K.

TI `The immunological monitoring of patients with acute radiation sickness 12 to 36 months after the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Dec. 35(12). P 27-30.

PT JOURNAL-ARTICLE (ART).

AB Immunoassays of the 1st and 2nd levels were investigated in patients with acute radiation disease 12-36 mos. after irradiation. A decrease in the level of helper/inducer T-lymphocytes, a tendency to a decrease in the number of suppressors and an increase in the number of theophylline-stimulated T-cells in patients with acute radiation disease of the 3rd degree were observed. Control of the immune status of this group of patients is recommended. Author-abstract.

487

AN 91094603. 91000.

AU Kharitonov-V-V. Gasteva-G-N. Efremovtseva-O-P. Krasniuk-V-I. Burygina-N-A. Seregina-E-A. Griaznova-E-A.

TI `The circulatory system in acute radiation sickness developing in the victims in the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Dec. 35(12). P 25-7.

PT JOURNAL-ARTICLE (ART).

488

AN 91094601. 91000.

AU Gorban-N-G. Torubarov-F-S.

TI `The cerebral hemodynamics in acute radiation sickness developing in the victims of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Dec. 35(12). P 20-3.

PT JOURNAL-ARTICLE (ART).

AB Cerebral hemodynamics was investigated on the basis of rheoencephalography findings in persons with ARD of various degrees of severity in the latent period and during rehabilitation. The data obtained showed correlation of cerebral hemodynamics and a degree of gravity of ARD and a period of development of disease. A decrease in pulse rate, a tendency to increased peripheral resistance and vein tone and an increased rate of cerebral dystonia were marked at the time of rehabilitation of patients with ARD, II-III degree. Author-abstract.

489

AN 91094600. 91000.

AU Gusev-I-A. Moiseev-A-A. Guskova-A-K. Nugis-VIu.

TI `An assessment of the contribution of internal irradiation to the early manifestations of acute radiation sickness in the victims of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Dec. 35(12). P 16-20.

PT JOURNAL-ARTICLE (ART).

AB Materials of the investigation of victims of the accident at the *Chernobyl* Nuclear Power Plant were used for the estimation of a contribution of exposure with incorporated radionuclides to a course of acute radiation syndrome thyroid and pulmonary lesions. Attention was granted to patients who died as a result of accidental exposure. Dose values of thyroid, pulmonary and total body exposure were given. The severity of the affection of the bronchopulmonary and hypophysial-thyroid systems was assessed. The results of cytogenetic investigations to estimate absorbed doses were represented for some persons. Internal exposure was shown to make a considerable effect on the development of acute radiation syndrome in two persons only, internal whole-body exposure doses being compatible with a total exposure dose. Author-abstract.

490

AN 91083247. 91000.

AU Campos-Venuti-G. Felici-F. Grisanti-A. Grisanti-G. Risica-S.

IN Laboratorio di Fisica, Istituto Superiore di Sanita, Rome, Italy.

TI Radioactivity in human milk.

SO Ann-Ist-Super-Sanita. 1990. 26(2). P 111-8.

JT ANNALI DELL ISTITUTO SUPERIORE DI SANITA.

PT JOURNAL-ARTICLE (ART).

AB A brief introduction outlines the sources of radionuclides in the environment, their diffusion and transfer to different environmental compartments and their pathways to individuals; definitions of the main quantities and measurement units used in the study are included. A review is given on published data concerning the radioactive contamination of human milk after the *Chernobyl* accident. The authors' investigation on breast milk contamination in Italy in the same period is discussed together with an examination of the natural radioactive content. Finally, possible future developments and prospects of the research on this issue are explored. Author-abstract.

491

AN 91070378. 91000.

AU Bakken-L-R. Olsen-R-A.

IN Department of Biotechnological Sciences, Agricultural University of Norway, Aas-NLH.

TI Accumulation of radiocaesium in fungi.

SO Can-J-Microbiol. 1990 Oct. 36(10). P 704-10.

JT CANADIAN JOURNAL OF MICROBIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The accumulation of radioactive Cs by fungi was studied by analysis of fruit bodies (n (total) = 205, n greater than or equal to 5 for 22 species) collected in 1988 in a Norwegian mountain area with high deposition of radiocaesium from the *Chernobyl* accident. To account for site variation, the radiocaesium content of soil and plants was determined for each sampling spot. The soil contained 5-600 kBq/m² (median = 50 kBq/m², ¹³⁴Cs + ¹³⁷Cs). The plant content ranged from 0.25 to 23 Bq/g dry weight (median = 3.1 Bq/g) and was positively correlated with radiocaesium concentration in the soil ($r = 0.56$) and negatively correlated with soil pH ($r = -0.28$). The ratio between radiocaesium content in fungi and that in plants at the same spot (F/P) differed among species: 25 species had F/P values between 30 and 270, 12 species had F/P values between 10 and 30, and the rest (16 species) had F/P values below 10 (only four samples had values below 1). The concentration of nonradioactive Cs in fruit bodies was positively correlated with their radiocaesium content. Certain species selectively accumulated one or several trace elements (V, Cd, Hg, Pb, Th). Author-abstract.

492

AN 91067804. 91000.

AU Popova-O-N. Frolova-N-P. Taskaev-A-I.

TI `Monitoring the seeds of chronically irradiated native populations of *Plantago lanceolata* L. The radiosensitivity of seeds:.

SO Radiobiologia. 1990 Sep-Oct. 30(5). P 588-92.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The method of provocative gamma-irradiation was used to study the radiosensitivity of seeds of three first post-accident reproductions of *Plantago lanceolata* L. within the thirty kilometer zone of *Chernobyl.* The radiation injury was severer among seeds taken in 1987-1988 from the areas with a higher level of radioactive contamination. Author-abstract.

493

AN 91067803. 91000.

AU Nugis-VIu. Chirkov-A-A.

TI `A comparison of the number of chromatid aberrations with dose, estimated from the frequency of dicentrics, in the cytogenetic study of lymphocytes in subjects involved in the accident at the *Chernobyl* Nuclear Power Station:.

SO Radiobiologia. 1990 Sep-Oct. 30(5). P 585-7.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the frequency of chromatid aberrations in lymphocyte culture of subjects affected by the *Chernobyl* accident as a function of dose estimated by the incidence of dicentrics. The average number of chromatid aberrations was nearly the same within the dose range from 0 to 5 Gy exhibiting a tendency towards growth with dose. A high individual variability of the chromatid aberration

frequency was observed. Author-abstract.

494

AN 91067802. 91000.

AU Sevankaev-A-V. Dedenkov-A-N.

TI `Pressing problems of modern radiobiology in the light of the evaluation and prognosis of the aftermath of the accident at the *Chernobyl* Nuclear Power Station:.

SO Radiobiologiya. 1990 Sep-Oct. 30(5). P 579-84.

JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

495

AN 91057964. 91000.

AU Ulstein-M. Jensen-T-S. Irgens-L-M. Lie-R-T. Sivertsen-E.

IN Department of Obstetrics and Gynecology, University of Bergen, Norway.

TI Outcome of pregnancy in one Norwegian county 3 years prior to and 3 years subsequent to the *Chernobyl* accident.

SO Acta-Obstet-Gynecol-Scand. 1990. 69(4). P 277-80.

JT ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA.

PT JOURNAL-ARTICLE (ART).

AB Pregnancy outcome was studied in a county in Norway 3 years prior to and 3 years subsequent to the *Chernobyl* nuclear plant accident on 26th April 1986. More detailed analyses have been performed for the 12 months prior to and subsequent to the accident. A significant increase in the spontaneous abortion rate the first year after the accident was followed by a slight decrease during the second and third years, but figures were still higher than the period prior to the accident. The rate of legal abortions was unchanged. During the entire observation period the number of births increased continuously, with the exception of a decrease in the last 2 months of 1986 and the first month of 1987. A higher incidence of spontaneous abortions was found for pregnancies conceived during the first 3 months after the accident. This increase in the spontaneous abortion rate is noteworthy, and more especially its long-term persistence, which cannot be the result of external radiation. The internal radiation from food polluted by radioactive fallout is a possible explanation. Changes in nutrition in order to avoid polluted food may also be of importance. Author-abstract.

496

AN 91054024. 91000.

AU McKlveen-J-W.

IN Arizona State University, Tempe 85284-5706.

TI Current status of nuclear power in the United States and around the world.

SO Australas-Phys-Eng-Sci-Med. 1990 Sep. 13(3). P 101-9.

JT AUSTRALASIAN PHYSICAL AND ENGINEERING SCIENCES IN MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Nuclear energy's share of the world electricity market has been growing over the past 35 years. In 1989, eight generating units entered commercial operation abroad and three new units were licensed in the U.S. In early 1990, Mexico became the 26th country to produce electricity from nuclear power. Currently the 426 operating reactors supply one sixth of the world's total electrical capacity. Fourteen countries have now operated nuclear plants for 20 or more years. Since 1980, France has been the leader in the use of nuclear power and currently generates three quarters of its electricity from 54 nuclear plants. The U.S. has 112 nuclear plants, the largest number of any country in the world. These plants satisfy almost 20 percent of U.S. electrical energy requirements. Last year Three Mile Island, the would-be icon for everything that is wrong with the nuclear industry was rated as the most efficient nuclear plant in the world. The worldwide trend toward acceptance of nuclear is improving slightly, but many political and societal issues need to be resolved. Whereas recent polls indicate that a majority of the people realize nuclear must be a major contributor to the energy mix of the future, many are reluctant to support the technology until the issue of waste disposal has been resolved. Fears of another *Chernobyl,* lack of capital, and a new anti-nuclear campaign by Greenpeace will keep the nuclear debate alive in many countries. Additional stumbling blocks in the U.S. include the need to develop a new generation of improved reactor designs which emphasize passive safety features, standardized designs and a stream-lined federal licensing process. Nuclear power is really not dead. Even environmentalists are starting to give it another look. A nuclear renaissance will occur in the U.S. How soon or under what conditions remain to be seen. The next crisis in the U.S. will not be a shortage of energy, rather a shortage of electricity.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract. 42 Refs.

497

AN 91048896. 91000.

AU Pomerantseva-M-D. Testov-B-V. Ramaiia-L-K. Shevchenko-V-A. Chekhovich-A-V.

TI `Genetic disorders in laboratory mice exposed in the area of the *Chernobyl* Atomic Electric Power Station:.

SO Tsitol-Genet. 1990 Jul-Aug. 24(4). P 46-50.

JT TSITOLOGIIA I GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Laboratory male mice (CBA X C57Bl)F1 were exposed in three sectors with different contamination degree of radionuclides within 30 km-zone of the *Chernobyl* Atomic Power Plant. The total absorbed radiation doses in testes were 0.1; 3 and 25 Gy, respectively. Great depression of spermatogenesis was observed in exposed mice up to complete sterility in males from the most contaminated sector. The mutagenic effect of radiation was relatively low and did not increase with growth of the contamination degree. Author-abstract.

498

AN 91046993. 91000.
AU Lindell-M-K. Perry-R-W.
IN Michigan State University, East Lansing 48824-1117.
TI Effects of the *Chernobyl* accident on public perceptions of nuclear plant accident risks.
SO Risk-Anal. 1990 Sep. 10(3). P 393-9.
JT RISK ANALYSIS.
PT JOURNAL-ARTICLE (ART).
AB Assessments of public perceptions of the characteristics of a nuclear power plant accident and affective responses to its likelihood were conducted 5 months before and 1 month after the *Chernobyl* accident. Analyses of data from 69 residents of southwestern Washington showed significant test-retest correlations for only 10 of 18 variables--accident likelihood, three measures of impact characteristics, three measures of affective reactions, and hazard knowledge by governmental sources. Of these variables, only two had significant changes in mean ratings; frequency of thought and frequency of discussion about a nearby nuclear power plant both increased. While there were significant changes only for two personal consequences (expectations of cancer and genetic effects), both of these decreased. The results of this study indicate that more attention should be given to assessing the stability of risk perceptions over time. Moreover, the data demonstrate that experience with a major accident can actually decrease rather than increase perceptions of threat. Author-abstract.

499

AN 91018260. 91000.
AU Khromova-L-V. Romanovskii-M-G. Dukharev-V-A.
TI `Partial sterility of the pine tree in 1986 and 1987 in the vicinity of the *Chernobyl* nuclear power station:.
SO Radiobiologiya. 1990 Jul-Aug. 30(4). P 450-7.
JT RADIOBIOLOGIYA.
PT JOURNAL-ARTICLE (ART).
AB Reproductive potency of *Pinus silvestris* was studied in 1986, and 1987 within the zone of *Chernobyl* accident by the estimates of the survival rate of seed-buds during the gametophyte and embryonal development. At the radiation level of 4 Gy a partial female pine sterility was manifested by the decreased gametophyte survival rate of seedbuds, pollinated in 1986, and by the diminished embryonal survival rate of seed-buds pollinated in 1985. Author-abstract.

500

AN 91018259. 91000.
AU Frolova-N-P. Popova-O-N.
TI `Monitoring the seeds of chronically irradiated indigenous populations of *Plantago lanceolata* L. Variability in the progeny:.
SO Radiobiologiya. 1990 Jul-Aug. 30(4). P 446-9.
JT RADIOBIOLOGIYA.

PT JOURNAL-ARTICLE (ART).

AB The results of the morphometric study of *Plantago lanceolata* L. grown, in nursery, from seeds of the first and second post-accident reproductions within the thirty-kilometer zone around the crippled *Chernobyl* reactor show no relationship between the alterations in some quantitative indices and the variability of gamma-radiation background in places where maternal plants grow. Author-abstract.

501

AN 91018258. 91000.

AU Pomerantseva-M-D. Ramaiia-L-K. Testov-B-V. Chekhovich-A-V. Shevchenko-V-A. Shaks-A-I. Lobaneva-N-V.

TI `Reciprocal translocations in mice found in the vicinity of the *Chernobyl* nuclear power station:.

SO Radiobiologiia. 1990 Jul-Aug. 30(4). P 441-5.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A study was made of the incidence of genetic damage to germ cells of male mice taken from or exposed within the thirty-kilometer zone of *Chernobyl,* the contaminated no-man's-land around the reactor that failed. At all contamination levels mouse spermatocytes exhibited reciprocal translocations, a relatively low frequency of which increased with increasing dose rate. Heterozygotes, with respect to reciprocal translocations (5%), were found among males exposed to enhanced radiation background as early embryos. Author-abstract.

502

AN 91018257. 91000.

AU Baraboi-V-A.

TI `Radiobiology and the lessons of *Chernobyl*.:*

SO Radiobiologiia. 1990 Jul-Aug. 30(4). P 435-40.

JT RADIOBIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB The *Chernobyl* accident has marked the beginning of a new stage of radiobiology development and revealed scantiness of old concepts. One should (1) search for effective protectors against the long-term influence of low-level radiation and means of removal of radionuclides using criteria that differ principally from those used previously in selecting among nontoxic antioxidants, immunomodulators, and adaptogens; (2) study systematically the synergism of low doses of harmful agents and review the hygienic standardization system with due regard for the risk from their combinations; (3) consider comprehensively, on the basis of the experimental and clinical experience, the problem of "hot" particles and remote consequences of their influence on the respiratory and digestive systems; (4) study independently the problem of chronic stress as a combination of radiation effects and psycho-emotional consequences of the accident and living in the exposed areas; (5) consider it inadmissible to include in the B category the population of the districts influenced by the accident and to use the concept:

"35 rads during the lifetime" in standardizing the radiation load;
(6) organize a comprehensive analysis of the *Chernobyl* accident consequences for public health within the contaminated areas as well as for animals and plants using a single approved methodology and programme, the principle of "other equal conditions" being provided.
Author-abstract.

503

AN 91003487. 91000.
AU Csupka-S. Bedi-E.
IN Krajskej hygienickej stanice, Bratislave.
TI `Irradiation of the population of the West Slovakia Region by atmospheric fallout of ⁹⁰Sr and ¹³⁷Cs from 1965 to 1988:.
SO Bratisl-Lek-Listy. 1990 Aug. 91(8). P 601-8.
JT BRATISLAVSKE LEKARSKE LISTY.
PT JOURNAL-ARTICLE (ART).
AB The results of the survey show that as a consequence of the nuclear accident in *Chernobyl* contamination of foodstuffs with radioactive substances caused in May 1986 and additional irradiation of the population of the West Slovakian region which amounted to approximately 10-20% of the dose load derived from natural sources (cosmic radiation, radioactive substances present in the earth crust, in building materials, etc.). The mean dose load of the population was roughly 8 times higher in 1986 than in 1965, when tests of nuclear weapons had been carried out in the atmosphere and when systematic monitoring of radioactivity in foodstuffs had been implemented in the West Slovakian region. Contamination of the environment due to nuclear weapon tests reached the highest values in 1962-1963 when the dose load of the population can be assumed to have been 2-3 times higher than in 1965. In the locality of the nuclear power plant Jasl. Bohunice contamination of foodstuffs with radioactive substances was in the period of operation of the plant at the level of foodstuff contamination recorded at the reference site.
Author-abstract.

504

AN 90382236. 90000.
AU Gehra-H.
IN Tiergesundheitsdienst Bayern, Grub.
TI `The contamination of food trout and carp from Bavarian fish farms with radiocesium (Cs-137 + 134) 1986 to 1989 as the result of the nuclear power plant accident at *Chernobyl*.:*
SO DTW-Dtsch-Tierarztl-Wochenschr. 1990 Jul. 97(7). P 279-80.
JT DTW. DEUTSCHE TIERARZTLICHE WOCHENSCHRIFT.
PT JOURNAL-ARTICLE (ART).
AB After the nuclear power station accident of *Chernobyl* at 26. 4. 86 Southern Bavaria was contaminated with radionuclides as J-131, Cs-137 and Cs-134. After three months only the Cesium nuclides had bearing on food, accordingly for fish. The accumulation of total Cesium (137 + 134) in the muscle of trout and carp had reached levels of 30 and

80 Bq/kg on an average and levels for 300 and about 800 Bq/kg were determined as maximum. The more naturally fed carps had have in the first two years a higher accumulation than the trout. Then the accumulation was equally on a low level near zero. Author-abstract.

505

AN 90381378. 90000.

AU Hubert-D.

TI `4 years after *Chernobyl:* medical repercussions:.

SO Bull-Cancer (Paris). 1990. 77(5). P 419-28.

JT BULLETIN DU CANCER.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-MULTICASE (RMC).

AB The nuclear accident at *Chernobyl* accounted for an acute radiation syndrome in 237 persons on the site. Triage was the initial problem and was carried out according to clinical and biological criteria; evaluating the doses received was based on these criteria. Thirty one persons died and only 1 survived a dose higher than 6 Gy. Skin radiation burns which were due to inadequate decontamination, greatly worsened prognosis. The results of 13 bone marrow transplantations were disappointing, with only 2 survivors. Some time after the accident, these severely irradiated patients are mainly suffering from psychosomatic disorders, in the USSR, some areas have been significantly contaminated and several measures were taken to mitigate the impact on population: evacuating 135,000 persons, distributing prophylactic iodine, establishing standards and controls on foodstuff. Radiation phobia syndrome which developed in many persons, is the only sanitary effect noticed up to now. Finally, in Europe, there was only an increase in induced abortions and this was totally unwarranted. If we consider the risk of radiation induced cancer, an effect might not be demonstrated. Author-abstract. 31 Refs.

506

AN 90376873. 90000.

AU Rich-V.

TI USSR: theft of *Chernobyl* data `news:.

SO Lancet. 1990 Sep 22. 336(8717). P 736.

JT LANCET.

PT NEWS (NEW).

507

AN 90375322. 90000.

AU Albini-E. Mascaro-L. Belletti-S.

IN Medical Physics Department, Spedali Civili, Brescia, Italy.

TI Measurements of radiocesium transfer to milk and calculation of resulting dose in Brescia, Italy, following the *Chernobyl* accident.

SO Health-Phys. 1990 Oct. 59(4). P 455-60.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Results are presented of several measurements on components of the

cows' milk chain performed at our Medical Physics Service after the *Chernobyl* accident. Values were obtained for Cs isotope transfer coefficients, namely, for cows' diet-milk and diet-feces transfers. Other measured parameters were the effective half-life of Cs in milk and the ^{134}Cs : ^{137}Cs ratio. In addition, an evaluation of Cs contribution to the absorbed dose to population from milk is performed. Author-abstract.

508

AN 90375321. 90000.

AU Korhonen-R.

IN VTT, Nuclear Engineering Laboratory, Helsinki, Finland.

TI Modeling transfer of ^{137}Cs fallout in a large Finnish watercourse.

SO Health-Phys. 1990 Oct. 59(4). P 443-54.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB In the Finnish environment, lakes provide very important transfer pathways for various pollutants. In this study, a large watercourse was modeled using the dynamic compartment model DETRA. The model includes a fish model for roach, nonpredatory and predatory perches, and pike. Transfer of ^{137}Cs fallout deposited onto the Kymijoki drainage area after the *Chernobyl* accident was calculated using the model. In the model, fallout was assumed to consist of a soluble and insoluble component, behaving differently in the environment. Model predictions were compared with measured concentrations. Lake Paijanne, the largest lake of the watercourse, was studied most extensively. Calculated concentrations in lake water were consistent with measured concentrations. However, calculated concentrations in fish were lower than measured concentrations. To test the model by using additional experimental data, transfer of nuclear weapons testing fallout was also calculated. The processes that cause the rather rapid removal of ^{137}Cs from lake water need to be studied further using more detailed data. In the long term, runoff and resuspension of sedimentary material were considered to be important in causing concentrations in lake water. Author-abstract.

509

AN 90367967. 90000.

AU Domracheva-E-V. Brilliant-M-D. Vorobev-A-I. Gulina-G-P.

TI `Problem of radiation-induced leukemia:.

SO Gematol-Transfuziol. 1990 Jun. 35(6). P 3-9.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A case of radiation-induced leukemia has been described in a woman living in the area exposed to radioactive contamination as a result of the disaster at the *Chernobyl* NPS. Radiation-induced leukemia was diagnosed basing on the cytogenetic changes in the bone marrow and peripheral blood lymphocytes. Cytogenetic changes in the peripheral blood lymphocytes have been recorded in 60 subjects who were evacuated from areas contaminated with isotopes as a result of the

disaster. Author-abstract.

510

AN 90356057. 90000.

AU Ostrosky-Wegman-P. Montero-R. Palao-A. Cortinas-de-Nava-C.
Hurtado-F. Albertini-R-J.

IN Instituto de Investigaciones Biomedicas, UNAM, Mexico D.F., Mexico.

TI 6-Thioguanine-resistant T-lymphocyte autoradiographic assay.
Determination of variation frequencies in individuals suspected of
radiation exposure.

SO Mutat-Res. 1990 Sep. 232(1). P 49-56.

JT MUTATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

AB We used the autoradiographic assay to assess human in vivo somatic cell gene mutation at the hypoxanthine guanine phosphoribosyl transferase (HGPRT) locus in T-lymphocytes. Cells able to incorporate tritiated thymidine in vitro in the presence of 6-thioguanine were enumerated in order to determine 6-thioguanine-resistance (TGr) variant frequencies in cryopreserved lymphocytes from 17 normal control individuals, from 3 persons suspected to have been exposed to ⁶⁰Co in an accident in Cd. Juarez (Mexico), studied 24 months after the accident, and from 4 individuals who were in Kiev during the radiation accident in *Chernobyl* (U.S.S.R.); 2 of them were studied 1 month after the accident, and again 1 year after the first sampling, the other 2 were studied 13 months after the accident. The data obtained indicate that this assay may be useful in any laboratory of cytogenetics for human population monitoring and that its use following accidental exposure to ionizing radiation should be further evaluated.
Author-abstract.

511

AN 90342467. 90000.

AU Ruckert-G. Diehl-J-F. Heilgeist-M.

IN Botanisches Institut I der Universitat, Karlsruhe, Bundesrepublik Deutschland.

TI `Radioactivity levels in mushrooms collected in the area of Karlsruhe during 1987 and 1988:.

SO Z-Lebensm-Unters-Forsch. 1990 Jun. 190(6). P 496-500.

JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.

PT JOURNAL-ARTICLE (ART).

AB Radioactive contamination of wild-growing mushrooms collected in the Northern Black Forest and neighbouring Rhine Valley area has been monitored since the *Chernobyl* reactor accident. Cs-134, Cs-137, Ag-100m and the natural nuclide K-40 were determined by gamma-spectrometry. Pooled data from all species and all locations showed a decrease in the radio-caesium levels from 1986 to 1988, both in mean values and maximum values. Samples of the same species collected at the same location exhibited large differences, although mixed samples rather than individual mushrooms were measured.

Accumulation of caesium was observed particularly in *Laccaria amethystina*, *Xerocomus badius*, *Xerocomus chrysenteron*, *Cantharellus tubaeformis*, *Laccaria laccata*, and *Russula ochroleuca*, with maximum values of 3600 (1986), 2000 (1987), and 1200 (1988) Bq/kg of radiocaesium. A large number of species, among them *Calocybe gambosa* and *Coprinus comatus*, showed very small accumulations or no caesium. An accumulation of silver was found in *Macrolepiota rhacodes* and *Agaricus arvensis*, which contained a maximum of 11 Bq/kg Ag-110m. Author-abstract.

512

AN 90342275. 90000.

AU Ivashkin-V-T. Kirillov-M-M. Novozhenov-V-G. Grigorev-IuK. Lysenko-A-E.

TI `The therapeutic problems of medicine in catastrophes:.

SO Voen-Med-Zh. 1990 Apr. (4). P 32-7.

JT VOENNO-MEDITSINSKII ZHURNAL.

PT JOURNAL-ARTICLE (ART).

AB There are lack of principle differences between the problems of medical aid during the military and civil disasters, and therefore one can draw a conclusion concerning the validity and necessity of using the experience of military medics in disaster medicine during peace-time. The following aspects are discussed: organization of therapeutic caring of the victims during *Chernobyl's* AES disaster, earthquake in Armenia and accident in chemical enterprise "Nitrogen" in Jonava. Requirements to the teams for emergency medical service have been formulated with determination of Principles of putting them into practice; the further directions of therapeutic aid improvement are outlined. Author-abstract.

513

AN 90341259. 90000.

AU De-Wals-P. Dolk-H.

IN Department of Epidemiology, Catholic University of Louvain, Brussels, Belgium.

TI Effects of the *Chernobyl* radiological contamination on human reproduction in western Europe.

SO Prog-Clin-Biol-Res. 1990. 340C. P 339-46.

JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.

PT JOURNAL-ARTICLE (ART).

514

AN 90334719. 90000.

AU Olszyna-Marzys-A-E.

IN Laboratorio Unificado de Control de Alimentos y Medicamentos (LUCAM), Guatemala.

TI `Radioactivity and food:.

SO Bol-Oficina-Sanit-Panam. 1990 Mar. 108(3). P 198-212.

JT BOLETIN DE LA OFICINA SANITARIA PANAMERICANA.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB Two topics relating to radioactivity and food are discussed: food irradiation for preservation purposes, and food contamination from radioactive substances. Food irradiation involves the use of electromagnetic energy (x and gamma rays) emitted by radioactive substances or produced by machine in order to destroy the insects and microorganisms present and prevent germination. The sanitary and economic advantages of treating food in this way are discussed. Numerous studies have confirmed that under strictly controlled conditions no undesirable changes take place in food that has been irradiated nor is radioactivity induced. Reference is made to the accident at the *Chernobyl* nuclear power station, which aroused public concern about irradiated food. The events surrounding the accident are reviewed, and its consequences with regard to contamination of different foods with radioactive substances, particularly iodine-131 and cesium-137, are described. Also discussed are the steps that have been taken by different international organizations to set limits on acceptable radioactivity in food. Author-abstract. 15 Refs.

515

AN 90326602. 90000.

AU Mocan-H. Bozkaya-H. Mocan-M-Z. Furtun-E-M.

IN Department of Paediatrics, Black Sea (Karadeniz) Technical University, Faculty of Medicine, Trabzon, Turkey.

TI Changing incidence of anencephaly in the eastern Black Sea region of Turkey and *Chernobyl*.*

SO Paediatr-Perinat-Epidemiol. 1990 Jul. 4(3). P 264-8.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The incidence of neural tube defects (NTD) was 2.12 per 1000 births and that of anencephaly was 1.29 per 1000 births when we reviewed the 40,997 consecutive births between 1981 and 1986 in the major maternity hospital in the eastern Black Sea region of Turkey. There was a significant increase in the incidences of NTD and anencephaly after 1986 to 4.39 and 2.46 per 1000 births respectively (P less than 0.0001; P less than 0.005). Although this might be a coincidence, it may be due to the nuclear contamination of the region following the *Chernobyl* accident. Author-abstract.

516

AN 90325955. 90000.

AU Selezneva-L-G. Barabanova-A-V. Adamian-A-A. Drobysh-S-V.

Kochergina-L-D. Chechetkin-P-I. Golovanova-N-M. Makarova-L-R. Tuzova-N-N.

TI `The use of kombutek 2 in treating patients with radiation damages to the skin:.

SO Med-Radiol (Mosk). 1990 Jul. 35(7). P 33-4.

PT JOURNAL-ARTICLE (ART).

AB A high activity of combutec 2, prepared on the basis of soluble collagen, was demonstrated in patients with radiation injuries of the

skin after the accident at *Chernobyl.* Combutec 2 can be recommended for local therapy of patients with skin radiation injuries in all periods of development of these changes. Author-abstract.

517

AN 90323546. 90000.

AU Krenn-C-G. Herczeg-K. Albrecht-A. Koppensteiner-E. Mikoleit-B. Rahmani-A. Stranzinger-J. Weixelberger-A. Wieser-S. Unfried-E. et al.

IN Institut fur Sterilitatsbetreuung, Wien.

TI `Radioactive cesium 137 and cesium 134 in follicle and seminal fluid:.

SO Geburtshilfe-Frauenheilkd. 1990 May. 50(5). P 394-6.

JT GEBURTSHILFE UND FRAUENHEILKUNDE.

PT JOURNAL-ARTICLE (ART).

AB Radioactive caesium nuclids were measured in follicular fluid and seminal plasma after the nuclear power station accident of *Chernobyl.* Immediately after the event (June - Aug. 86) both Cs 137 and Cs 134 were negative, with the exception of one sample. Increased levels of Cs 137 were found in the next three periods of measurement (Nov. 86 - Jan. 87), (June - Aug. 87), (March 88), with the highest results one year after the accident. Increased levels of Cs 134 were found only in the last two periods of measurement. In seminal plasma, both Cs 137 and Cs 134, were elevated in some samples. An influence on the results of IVF was not registered. Author-abstract.

518

AN 90316765. 90000.

AU Hove-K. Pedersen-O. Garmo-T-H. Hansen-H-S. Staaland-H.

IN Department of Animal Science, Agricultural University of Norway.

TI Fungi: a major source of radiocesium contamination of grazing ruminants in Norway.

SO Health-Phys. 1990 Aug. 59(2). P 189-92.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Transfer of radiocesium from vegetation to milk was studied in dairy goats grazing heavily contaminated mountain pasture in southern Norway in the years following the *Chernobyl* accident. Radiocesium activity in milk and green vegetation remained stable throughout 1986 and 1987. In 1988, a sudden three- to fivefold increase in milk radioactivity occurred during the second half of the summer. Whole-body content of radioactivity in sheep and reindeer also increased rapidly. This coincided with an abundant growth of fungal fruit bodies with radiocesium levels up to 100 times higher than green vegetation. Fungal radiocesium was found to be highly available in a digestibility study with goats. Milk radioactivity levels in the field could be accounted for by consumption of as little as 20-100 g d-1 of fungal dry matter (DM). The importance of fungal fruit bodies in transferring radiocesium to ruminants was further substantiated by comparing meat activities in grazing

ruminants in 1988 and 1989. Fungal fruit bodies were present in minor quantities in 1989, and radioactivity levels in sheep and reindeer in August-September were only 28-35% of those in 1988. This ability of fungi to mobilize radiocesium from natural soils and transfer the isotopes into the human food chain greatly enhances the vulnerability of food production in natural ecosystems to radiocesium pollution. Author-abstract.

519

AN 90312534. 90000.
AU Skjerve-E.
IN Institutt for naeringsmiddelhygiene, Norges veterinærhøgskole, Oslo.
TI `Pregnancy outcome in some Norwegian counties before and after the *Chernobyl* accident. A commentary:.
SO Tidsskr-Nor-Laegeforen. 1990 Jun 20. 110(16). P 2109-10.
JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORENING.
PT JOURNAL-ARTICLE (ART).

520

AN 90296040. 90000.
AU Allott-R-W. Hewitt-C-N. Kelly-M-R.
IN Institute of Environmental & Biological Sciences, University of Lancaster, Bailrigg, U.K.
TI The environmental half-lives and mean residence times of contaminants in dust for an urban environment: Barrow-in-Furness.
SO Sci-Total-Environ. 1990 Apr. 93. P 403-10.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB Radiocaesium contamination of dusts from external (road and school yards) and internal (house) environments within Barrow-in-Furness was found to be derived from the primary input event of *Chernobyl* fallout. The specific activity of radiocaesium in the dust reservoirs studied, decreased exponentially, enabling environmental half-lives to be calculated (190-370 day). The broad similarity of these half-lives indicated that secondary contamination processes, such as atmospheric deposition of resuspended dust, cause all the internal and external reservoirs to be linked into a system encompassing much of Barrow-in-Furness. Mean residence times of external dust were derived from the calculated environmental half-lives and measurements of atmospheric deposition (150-250 day). These mean residence times are dependent on local processes and are thus site specific, whilst the environmental half-lives represent an integration of all the processes operating in Barrow-in-Furness. Author-abstract.

521

AN 90292858. 90000.
AU Melandri-C. Tarroni-G.
TI Cesium-137 urinary excretion by northeastern Italian (Pordenone) people following the *Chernobyl* nuclear accident: a comment `letter;

comment:.

SO Health-Phys. 1990 Jul. 59(1). P 146-7.

JT HEALTH PHYSICS.

PT COMMENT (COM). LETTER (LET).

522

AN 90286079. 90000.

AU Breo-D-L.

TI *Chernobyl* hero (and victim) fighting for life in American hospital.

SO JAMA. 1990 Jul 11. 264(2). P 257-8.

JT JAMA.

PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).

523

AN 90284707. 90000.

AU Pomerantseva-M-D. Shevchenko-V-A. Ramaiia-L-K. Testov-B-V.

TI `Genetic damage in domestic mice inhabiting in the areas with elevated background radiation:.

SO Genetika. 1990 Mar. 26(3). P 466-73.

JT GENETIKA.

PT JOURNAL-ARTICLE (ART).

AB Genetic effects of irradiation in males of wild house mice which were caught in the region of *Chernobyl* Nuclear Power Station were studied. The dose rate on the ground surface varied from 0.04 to 200 mR/h of gamma-irradiation. The increasing yield of dominant lethal mutations was only observed in males from the most contaminated sector. Reciprocal translocations were observed in spermatocytes of mice at all the levels of contamination. The rate of reciprocal translocations was relatively low and increased linearly with the elevation of the dose rate. The extent of testis damages increased also, as the dose rate grew. The frequency of abnormal sperm heads, the yield of recessive lethal mutations, litter size and radiosensitivity of the first progeny were not changed, depending on the dose rate. Author-abstract.

524

AN 90281501. 90000.

AU Prochazka-H. Brunclik-T. Jandl-J. Jirasek-V. Novosad-J. Hampl-J.

IN Vyzkumny ustav veterinarniho lekarstvi, Brno.

TI `Cesium transfer in short food chains:.

SO Vet-Med (Praha). 1990 Feb. 35(2). P 119-28.

JT VETERINARNI MEDICINA.

PT JOURNAL-ARTICLE (ART).

AB An investigation of 25,000 samples of foodstuffs and feedstuffs in Czechoslovakia, contaminated by fall-out cesium after the accident in the *Chernobyl* nuclear power plant, performed from May 5, 1986 to March 31, 1988, revealed that both the values of cesium transfer-factors in food--animal tissues--milk transitions and the values of biological half-life of cesium are functions of internal

and external conditions of contamination. Organism individuality as the main internal condition causes the variance of about +/- 50% of the mean value of the respective transfer-factor. Through the external conditions, mainly the environmental contamination level, type of ingested food and time of ingestion, the mean values of transfer-factors are influenced up to 500%, e.g. to the value of 0.5. But this value converges with growing up contamination of food and environment to the limit of 0.3. The first two to three biological half-lives after the last ingestion of contaminated food are up to ten-times shorter than those at stabilized state.
Author-abstract.

525

AN 90281013. 90000.

AU Bertollini-R. Di-Lallo-D. Mastroiacovo-P. Perucci-C-A.

IN Epidemiology Unit, Lazio Region, Rome, Italy.

TI Reduction of births in Italy after the *Chernobyl* accident `see comments:.

SO Scand-J-Work-Environ-Health. 1990 Apr. 16(2). P 96-101.

JT SCANDINAVIAN JOURNAL OF WORK, ENVIRONMENT AND HEALTH.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* accident serious concern spread throughout Italy about the possible effects of the consequent exposure to radioactivity on fetuses. A reduction of births in the first three months of 1987, and particularly in February (7.2% reduction in the birth rate), was observed throughout Italy. In m. Samples of soil, vegetation, milk, and water from this area contained higher than normal concentrations of ^{129}I . The long-term transfer of radioiodine from the soil to the plant and the translocation within the soil were studied using a soil monolith with a ^{129}I -contaminated surface. During the 4 y of the experiment, the transfer factor plant/soil decreased from 0.3 to 2.2×10^{-3} . Soil samples taken in 5-cm steps to a depth of 30 cm then at 40 and 50 cm depths showed that the transport of radioiodine to lower layers proceeds very slowly. The top 5-cm layer contained about 80% of the total radioactivity 52 mo after contamination. In an in-vivo study with a dairy cow, the transfer of radioiodine from feed to milk to cow meat and to pig thyroid gland was followed for 53 d using ^{129}I -labeled pasture grass contaminated via roots. A part of the milk obtained from the cow was fed to a pig as a substitute for humans. The mean value of the transfer factor milk/feed was 2.4×10^{-3} d kg⁻¹. The values of the transfer factor cow meat/feed obtained for different muscle cuts and organs (excluding thyroid) ranged between 3.0×10^{-4} (kidney) and 5.4×10^{-2} d kg⁻¹ f.w. The transfer factors pig thyroid/milk (as pig feed) and pig thyroid/cow feed exhibited values of 1.2 and 8.7×10^{-3} d kg⁻¹ f.w., respectively. Author-abstract.

531

AN 90234355. 90000.

AU Trenta-G. Muzzi-A.

TI `Possibilities and limitations of the predictive risk estimates and epidemiological studies following the *Chernobyl* incident:.

SO Ann-Ig. 1989 Sep-Oct. 1(5). P 867-81.

JT ANNALI DI IGIENE.

PT JOURNAL-ARTICLE (ART).

AB The disastrous accident at the nuclear power station at the *Chernobyl* on 1986 (April 26) has brought attention to the estimation of radiation health effects and many "experts" were attending to the evaluation on oncogenic mortality increase among the Italian population in the next future. On the contrary at that time too few peoples were worried about the possibility of detecting such an increase. Discussion of this topic is notoriously fraught with difficulties arising from differences of opinion how to estimate low-dose risk in humans without data from direct observation. One opinion is to extrapolate from the data points obtained at relatively high doses toward zero dose (zero extrapolation theory). This permit estimates of risk to be made but, in the final analysis, no data from humans exist that show that low-level radiation exposures produce measurable biologic effects. For that this theory is more useful in radio-protection and medico-legal subjects. It is easy on a statistical basis to prove the impossibility to establish an increase in human cancer after low doses of ionizing radiation such as those received environmentally after the *Chernobyl's* accident. In this condition to observe the numbers of radiation-induced cancer deaths that far exceed the "natural" incidence would require a follow-up a sample more and more greater than the italian population herself. Indeed the statistical power of a hypothetical follow-up study at a suitable confidence level would require a sample size higher than a milliard of persons for the detection of an increase of a generic cancer mortality and higher then seven hundred of millions for the detection of an increase of the specific thyroid cancer mortality. In more detail the following figures for the parameters needed to curring out the evaluation have been used: medium dose equivalent to the thyroid, 2.03 mSv; medium effective dose equivalent up to december '87, 0.6 mSv; thyroid cancer mortality in the italian population, $0.94 \cdot 10^{-5}$ y⁻¹; total cancer mortality in the italian population, $22.2 \cdot 10^{-2}$ y⁻¹; risk factor per unit dose equivalent in thyroid, $0.5 \cdot 10^{-6}$ mSv⁻¹; risk factor per unit effective dose equivalent, $2.0 \cdot 10^{-5}$ mSv⁻¹. Applying the foregoing values in statistical inference methods it could be achieved that $7.5 \cdot 10^8$ and $1.25 \cdot 10^9$ persons must be followed-up in the next 30 years to detect a significant increase over the "natural" cancer mortality for thyroid and "total body" radioinduced cancers respectively.(ABSTRACT TRUNCATED AT 400 WORDS). Author-abstract.

532

AN 90230954. 90000.

AU Brennan-M.

TI USSR: medical effects of *Chernobyl* disaster `news:.

SO Lancet. 1990 May 5. 335(8697). P 1086.

JT LANCET.
PT NEWS (NEW).

533

AN 90222457. 90000.
AU Perry-A-R. Iglar-A-F.
IN Nave Paramedical Center, East Tennessee State University,
Elizabethton 37643.
TI The accident at *Chernobyl:* radiation doses and effects.
SO Radiol-Technol. 1990 Mar-Apr. 61(4). P 290-4.
JT RADIOLOGIC TECHNOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB Four years ago next month, on April 26, 1986, a nuclear power plant
in *Chernobyl,* Russia, exploded releasing tremendous amounts of
radioactive substances into the atmosphere. This paper describes the
types of radiation released, the levels of exposure, the number of
people exposed and short-term effects observed. Author-abstract. 8
Refs.

534

AN 90220208. 90000.
AU Ligutic-I. Beer-Z. Modrusan-Mozetic-Z. Svel-I.
TI `Incidence of congenital anomalies in 2 communities in Croatia before
and after the *Chernobyl* nuclear accident:.
SO Lijec-Vjesn. 1989 Sep-Oct. 111(9-10). P 317-25.
JT LIJECNICKI VJESNIK.
PT JOURNAL-ARTICLE (ART).
AB The Institute for Medical Protection of Mothers and Children, being
regional centre of European registry of congenital malformations
(EUROCAT) since 1982, registers congenital anomalies in municipals of
Varazdin and Rijeka. Following the nuclear disaster of *Chernobyl,*
there were numerous articles published mainly in daily newspapers,
pointing to the increased number of malformations, particularly to
Down's syndrome, due to additional irradiation imposed on population.
Through this study we wanted to find out whether in Varazdin and
Rijeka, following the *Chernobyl's* accident, there has been any
increase of congenital anomalies and whether our regional and EUROCAT
registry have been adequate to find out genetic effects of small
doses of ionizing radiation. The total incidence of registered
congenital anomalies in Varazdin and Rijeka in previous four-year
period, amounted to 12.97%, while following *Chernobyl,* it amounted to
12.7%. Not even nine marker malformations, including Down's
syndrome, show any statistically significant increased number of
malformations, a year after this nuclear accident. In 18 EUROCAT
registries, on almost half a million of newly born children and
foetuses, conceived before and after May 1, 1986, the frequency of
Down's syndrome and congenital malformations of central nervous
system and eyes has been compared. There have been no important
differences between two compared groups, and the rate of Down's
syndrome was 1.26% before, and 0.91% after the accident. Anticipated

stochastic genetic effects of measured and estimated additional doses of radiation imposed to our and Western European populations are too small to be found out neither by regional nor by EUROCAT registries. Author-abstract.

535

AN 90217790. 90000.
AU Barabanova-A. Osanov-D-P.
IN Division of Nuclear Safety, IAEA, Vienna, Austria.
TI The dependence of skin lesions on the depth-dose distribution from beta-irradiation of people in the *Chernobyl* nuclear power plant accident.
SO Int-J-Radiat-Biol. 1990 Apr. 57(4). P 775-82.
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
PT JOURNAL-ARTICLE (ART).
AB A detailed study was made of the conditions of exposure of 56 victims of the *Chernobyl* accident who suffered radiation lesions in the skin. The most typical conditions were experimentally reconstructed in order to investigate the specific characteristics of the distribution of doses to the skin according to depth for different exposure conditions. The absorbed doses at depths of 7 mg cm⁻² and 150 mg cm⁻² were calculated on the basis of measurements with multilayer skin dosimeters. The patients were classified into four groups. Dosimetric characteristics for each group were compared with the clinical pictures to establish the critical factors in the occurrence of lesions. It was demonstrated that the depth-dose distribution of beta-radiation to the skin is of great influence not only for the early effects of radiation but also for the later effects. Radiation lesions in the skin led to death if the area of the lesions exceeded about 50% of the total body surface, and if the doses to the skin were about 200-300 Gy at 7 mg cm⁻² and more than about 30 Gy at 150 mg cm⁻². Author-abstract.

536

AN 90217778. 90000.
AU Aarkrog-A.
IN Ris National Laboratory, Roskilde, Denmark.
TI Environmental radiation and radioactive releases.
SO Int-J-Radiat-Biol. 1990 Apr. 57(4). P 619-31.
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB Today the most important anthropogenic radiation comes from atmospheric testing of nuclear weapons carried out 20-30 years ago, authorized discharges to the sea from nuclear reprocessing plants, and from the *Chernobyl* accident in 1986. In the past decade the International Union of Radioecologists (IUR) has contributed to improved international co-operation among radioecologists from all parts of the world through its creation of a number of working groups for specific radioecological problems. More than 30 years of radioecological studies have probably made the radioactive

contamination of our environment the best-understood of all present pollution problems. This review indicates the doses to man received from the important anthropogenic sources, as well as those from natural background radiation. It appears that in a global perspective the latter is by far the most important contributor. Author-abstract. 10 Refs.

537

AN 90216226. 90000.
AU Lloyd-R-D.
TI *Chernobyl* fallout radionuclides in Utah residents `letter:.
SO Health-Phys. 1990 Apr. 58(4). P 533-4.
JT HEALTH PHYSICS.
PT LETTER (LET).

538

AN 90216212. 90000.
AU de-Meijer-R-J. Aldenkamp-F-J. Brummelhuis-M-J. Jansen-J-F.
Put-L-W.
IN Kernfysisch Versneller Instituut, Groningen, The Netherlands.
TI Radionuclide concentrations in the northern part of The Netherlands after the *Chernobyl* reactor accident.
SO Health-Phys. 1990 Apr. 58(4). P 441-52.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Concentrations of radionuclides originating from the *Chernobyl* reactor accident were measured as a function of time in air, rainwater, grass, cow's milk, vegetables and dust by means of high-resolution gamma-ray spectroscopy. Special attention was paid to grass and milk originating from the same meadows. Also, milk of cows temporarily kept inside after the accident was monitored until a few days after their release from the stables. Activity ratios in various types of samples and the implication of the sheltering measures for cows are discussed. Author-abstract.

539

AN 90210429. 90000.
AU Gundy-S.
TI Cytogenetical studies on a large control population and on persons occupationally exposed to radiation and/or to chemicals.
SO Ann-Ist-Super-Sanita. 1989. 25(4). P 549-55.
JT ANNALI DELL ISTITUTO SUPERIORE DI SANITA.
PT JOURNAL-ARTICLE (ART).
AB Nowadays all people are exposed to mutagens environmentally, occupationally, therapeutically or due to life style. In order to validate any conclusions concerning a possible effect of some kind of these mutagens to the relevant exposed groups, chromosomal analysis was carried out on a standard population (211 persons) distributed randomly from biological and social points of view and on 163 persons, occupationally exposed to different kinds of mutagens.

Analysis proved that the mean frequency of chromosomal aberrations (CA) of control was 0.81% and it was similar before and following the *Chernobyl* events. Data concerning the CA frequency in people exposed occupationally to low doses of ionizing radiations below the internationally accepted permissible level, showed a 2-6-fold increase of aberrant cells. Occupational exposure to chemical mutagens such as vinyl-chloride and organic solvents like benzene and toluene revealed 2-4 times higher frequency of CAs than the control; however, exposures to organophosphorus insecticides reached a 5-6-fold increase in CAs as well. The sister chromatid exchange (SCE) frequency data were in each exposed group higher than the control values. Neither chromosomal aberration frequencies, nor sister chromatid exchanges differed significantly between smokers and non smokers in control and exposed persons. Author-abstract.

540

AN 90202198. 90000.

AU Havlik-E. Haber-P. Klein-G. Roggla-G. Bergmann-H.

IN Division of Nuclear Medicine, University of Vienna, Austria.

TI Increased ¹³⁷caesium whole body radioactivity in high-performance athletes.

SO Int-J-Sports-Med. 1990 Feb. 11(1). P 37-40.

JT INTERNATIONAL JOURNAL OF SPORTS MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB A shadow shield whole body counter with automated gamma spectrum analysis is used in the division of nuclear medicine for the measurement of whole body radioactivity. After the radioactive fall-out in Austria caused by the *Chernobyl* accident the instrument has been extensively utilized for the assessment of the radiation level in the general population. In November of 1986 and 1987 the level of internal contamination with ¹³⁷Cs in high-performance athletes was compared with a group of subjects practicing little or no sports. It was found that significantly higher contents of ¹³⁷Cs were present in the athletes. Furthermore, it was found that within the groups of athletes male subjects had significantly higher internal ¹³⁷Cs contamination per kilogram of body mass than the female subjects. An explanation for this is the different nutrition and the higher relative muscle mass of the athletes. Author-abstract.

541

AN 90193780. 90000.

AU Beach-H.

TI Perceptions of risk, dilemmas of policy: nuclear fallout in Swedish Lapland.

SO Soc-Sci-Med. 1990. 30(6). P 729-38.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB This paper concerns risk perceptions of Swedish Saami reindeer herders in conjunction with the *Chernobyl* nuclear disaster. Focus is

also placed upon their experiences of damage and their efforts to deal with these problems. Data relating to these social aspects of the *Chernobyl* event come from interviews with members of Saami herding families. The initial governmental policy of establishing a simple contamination limit for the marketability of all foodstuffs was beset with shortcomings. I propose that all contaminated foods should be labeled with contamination specifications along a fully graded scale. In addition, there should be consumer education and recommendations for the entire population, not just one segment. An absolutely necessary step in the construction of valid policies is the health calibration of low-dose radiation. Without such knowledge, any marketability limit is suspect. With such knowledge, policy can be firmly based on human health. Author-abstract.

542

AN 90190206. 90000.

AU Piatkin-E-K. Chirkov-A-A. Solovev-VIu. Nugis-VIu.

TI `The direct use of cytogenetic data for plotting prognostic curves of the dynamics of neutrophil count after acute relatively uniform gamma irradiation (based on data from the victims of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Feb. 35(2). P 29-32.

PT JOURNAL-ARTICLE (ART).

AB A considerable number of irradiated persons appeared as a result of the accident at the *Chernobyl* Atomic Power Station. Analysis of chromosome aberrations and detailed hematological investigations were performed in them. Relatively uniform affection of the hemopoietic tissue could be anticipated on the basis of the results of the cytogenetic analysis in most of these persons who had been exposed to radiation at doses that were critical for the development of the bone marrow syndrome. It made it possible to establish direct quantitative relationship between the indices of a postradiation curve of the time course of the neutrophil count in peripheral blood and the mean rate of dicentrics in lymphocytes for cases of relatively uniform irradiation and to plot prognostic curves of neutrophils for different frequencies of dicentrics. Author-abstract.

543

AN 90186225. 90000.

AU Brini-D. Maltoni-Giacomelli-G. Morigi-M-P. Prodi-V. Volta-C. Bernardi-T. Testoni-G-V.

IN Dipartimento Fisica, Universita di Bologna, Italy.

TI A proposed multi-detector method for prompt ^{90}Sr detection in post-accident environmental matrices.

SO Health-Phys. 1990 Mar. 58(3). P 329-39.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Strontium-90 is of relevant biological importance among fission products released during a fission reactor accident. Rapid

information on its concentration in environmental matrices is extremely valuable, yet this implies chemical separations and handling with a shift in daughter equilibrium and therefore the need to wait a sufficient time for the equilibrium to be reestablished. The work concerns a feasibility study of a multi-detector system for a prompt evaluation of the ^{90}Sr activity or, at least, a prompt determination of its order of magnitude in the presence of other pure beta and beta-gamma emitters; their interferences are examined on the basis of the *Chernobyl* releases and their decay properties. The technique is based on a plastic scintillator beta detector and a guard ring of BGO counters which can be logically connected in coincidence and anticoincidence. The evaluations show that a few hours are sufficient to determine a specific activity comparable with the Maximum Permissible Concentration in air by sampling 10 m^3 .
Author-abstract.

544

AN 90186215. 90000.

AU Mettler-F-A. Sinclair-W-K. Anspaugh-L. Edington-C. Harley-J-H.
Ricks-R-C. Selby-P-B. Webster-E-W. Wyckoff-H-O.

IN School of Medicine, Department of Radiology, University of New Mexico, Albuquerque 87131.

TI The 1986 and 1988 UNSCEAR (United Nations Scientific Committee on the Effects of Atomic Radiation) reports: findings and implications.

SO Health-Phys. 1990 Mar. 58(3). P 241-50.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) has published a substantive series of reports concerning sources, effects, and risks of ionizing radiation. This article summarizes the highlights and conclusions from the most recent 1986 and 1988 reports. The present annual per person effective dose equivalent for the world's population is about 3 mSv. The majority of this (2.4 mSv) comes from natural background, and 0.4 to 1 mSv is from medical exposures. Other sources contribute less than 0.02 mSv annually. The worldwide collective effective dose equivalent annually is between 13 and 16 million person-Sv. The Committee assessed the collective effective dose equivalent to the population of the northern hemisphere from the reactor accident at *Chernobyl* and concluded that this is about 600,000 person-Sv. The Committee also reviewed risk estimates for radiation carcinogenesis which included the new Japanese dosimetry at Hiroshima and Nagasaki. These data indicate that risk coefficient estimates for high doses and high dose rate low-LET radiation in the Japanese population are approximately 3-10% Sv⁻¹, depending on the projection model utilized. The Committee also indicated that, in calculation of such risks at low doses and low dose rates, a risk-reduction factor in the range of 2-10 may be considered. Author-abstract.

545

AN 90183754. 90000.
AU Koch-H-C. Kramer-A. Burmeister-W. Knopp-R.
TI `Cesium-137 content in children 1 and 3 years after *Chernobyl*
(letter):.
SO Dtsch-Med-Wochenschr. 1990 Mar 16. 115(11). P 437.
JT DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.
PT LETTER (LET).

546

AN 90179888. 90000.
AU Broadbent-N-D.
TI The impact of *Chernobyl* on the economy and cultural-environment of
northern Sweden.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 195-8.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).

547

AN 90179885. 90000.
AU Rahola-T. Jaakkola-T. Miettinen-J-K. Tillander-M. Suomela-M.
TI Radiation dose to Finnish Lapps--comparison of effects of fallout
from atmospheric nuclear weapons tests and from the *Chernobyl*
accident.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 186-91.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).

548

AN 90176698. 90000.
AU Strand-P. Reitan-J-B. Harbitz-O. Brynildsen-L.
IN Statens institutt for stralehygiene, Osteras.
TI `Health protection after the *Chernobyl* accident. The relation of
costs and reduction of radioactive dosage level:.
SO Tidsskr-Nor-Laegeforen. 1990 Jan 30. 110(3). P 391-3.
JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORENING.
PT JOURNAL-ARTICLE (ART).
AB This article describes the nutritional measures introduced to protect
health after the *Chernobyl* accident, and the associated costs. The
total value of the reindeer meat, mutton, lamb and goat meat saved as
a result of such measures in 1987 amounted to approx. NOK 250
million. The measures cost approx. NOK 60 million. The resulting
reduction in the radiation dose level to which the population was
exposed was 450 manSv. In 1988, mutton/lamb and goat meat valued at
approx. NOK 310 million was saved from condemnation by similar
measures, which cost approx. NOK 50 million. The resulting dose
level reduction was approx. 200 manSv. The relationship
(cost/benefit ratio) between the overall cost of the measures taken
to reduce radioactivity levels in food and the dose level reduction
achieved was acceptable. Author-abstract.

549

AN 90176690. 90000.

AU Ulstein-M. Jensen-T-S. Irgens-L-M. Lie-R-T. Sivertsen-E.
Skjeldestad-F-E.

IN Kvinneklinikken, Haukeland sykehus, Bergen.

TI `Pregnancy outcome in some Norwegian counties before and after the
Chernobyl accident:.

SO Tidsskr-Nor-Laegeforen. 1990 Jan 30. 110(3). P 359-62.

JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORNING.

PT JOURNAL-ARTICLE (ART).

AB The outcome of pregnancies in six countries in Norway has been studied during 12 months prior and subsequent to the *Chernobyl* accident. The accident took place in a period with an annual increase of births of approximately 3%. However, the year after the accident a decrease of 0.7% was observed with particularly low numbers during February--April 1987. Concomitantly, the miscarriage fraction of all pregnancies increased by 16.3% and particularly during November 1986--January 1987. The same pattern was found when observations from Haukeland Hospital were analyzed separately. When the time of conception was taken into consideration we found that conceptions during the period May--July 1986 ended more often as miscarriages. We have no explanation of the observations. The external radiation exposure seems too small to have produced these effects. The internal radiation from food may have played a role. People may also have changed their food intake, using less vegetables, due to fear of these being polluted by radioactive fallout. Author-abstract.

550

AN 90176677. 90000.

AU Mork-T.

TI `Experiences after the *Chernobyl* accident:.

SO Tidsskr-Nor-Laegeforen. 1990 Jan 30. 110(3). P 321.

JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORNING.

PT JOURNAL-ARTICLE (ART).

551

AN 90173750. 90000.

AU Avetisov-G-M. Aleksakhin-R-M. Androsov-N-S. Aristov-V-P.
Baisogolov-G-D. Bazhin-A-G. Balonov-M-I. Buldakov-D-A.
Vainson-A-A. Voronin-V-S. et al.

TI `A statement by a group of scientists working in the field of radiation safety and radiation medicine in connection with the situation caused by the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1990 Jan. 35(1). P 7-9.

PT JOURNAL-ARTICLE (ART).

552

AN 90173745. 90000.

AU Mosulishvili-L-M. Katamadze-N-M. Shoniia-N-I. Ginturi-E-N.
TI `The kinetic patterns of the change in the radionuclide concentration
in the composition of Georgian tea:.
SO Med-Radiol (Mosk). 1990 Jan. 35(1). P 42-5.
PT JOURNAL-ARTICLE (ART).
AB The paper is concerned with the results of a study of behavior of
artificial radionuclides in Georgian tea technological products after
the accident at the *Chernobyl* Nuclear Station. A partial
contribution of the activity of radionuclides ¹⁴¹Ce, ¹⁴⁰La, ¹⁰³Ru,
¹⁰⁶Ru, ¹⁴⁰Ba, ¹³⁷Cs, ⁹⁵Zr, ⁹⁵Nb, ¹³⁴Cs and ⁹⁰Sr to the total activity
to Georgian tea samples. Maximum tolerated concentrations of
radionuclides were assessed provided average annual tea consumption
per capita was 1 kg. The maximum of solubility in the water phase
falls on Cs radionuclides. The regularities of migration of
half-lived radionuclides 3 yrs. After the *Chernobyl* accident were
established. Author-abstract.

553

AN 90168231. 90000.
AU Thompson-M-P.
TI U.S. physician gives view of the Soviet Union from *Chernobyl*
experience.
SO Colo-Med. 1990 Jan 1. 87(1). P 26-7.
JT COLORADO MEDICINE.
PT JOURNAL-ARTICLE (ART).

554

AN 90161951. 90000.
AU Rosner-G. Hotzl-H. Winkler-R.
IN GSF-Institut fur Strahlenschutz, Neuherberg, Federal Republic of
Germany.
TI Effect of dry deposition, washout and resuspension on radionuclide
ratios after the *Chernobyl* accident.
SO Sci-Total-Environ. 1990 Jan. 90. P 1-12.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB The temporal variations of radionuclide ratios in air and deposition
samples collected simultaneously at Munich-Neuherberg (F.R.G.) after
the *Chernobyl* accident have been studied. Until 8 May 1986, the
radionuclides investigated were ⁹⁹Mo, ¹⁰³Ru, ¹⁰⁶Ru, ^{110m}Ag, ¹²⁵Sb,
^{129m}Te, ¹³²Te, ¹³¹I, ¹³⁴Cs, ¹³⁷Cs, ¹⁴⁰Ba, ¹⁴¹Ce and ¹⁴⁴Ce. After 8
May, ⁹⁹Mo, ^{110m}Ag, ¹²⁵Sb, and the Ce isotopes were below the
detection limits. Considerable temporal variations of the above
radionuclides, relative to ¹³⁷Cs, were observed in air as well as in
deposition. In air the temporal variations reflect the arrival of
different parts of the reactor plume with different elemental
composition. In deposition, the temporal patterns were quite
different from those in air for a given radionuclide. This is
explained by varying contributions of dry and wet deposition. Until
8 May, the washout ratios of the above radionuclides covered a range

from 240 to 5600, with smaller variations for all radionuclides within one event (e.g. 460-910), and larger variations from one event to another (e.g. 460-3300 for ^{137}Cs). The dry deposition velocity of ^{137}Cs was found to be 0.27 cm s^{-1} , similar to that of ^{110m}Ag , aerosol ^{131}I and ^{140}Ba (0.37 , 0.13 and 0.15 cm s^{-1}). Another group of radionuclides includes ^{103}Ru , ^{106}Ru , ^{125}Sb , total ^{131}I and ^{132}Te with dry deposition velocities of 0.08 , 0.10 , 0.07 , 0.03 and 0.08 cm s^{-1} and with temporal variations in deposition which are quite different from those of the first group. From 8 May to the end of June, the washout ratios increased to values between 1500 and 24,000, with the exception of iodine, which had considerably lower washout ratios of between 37 and 4400. These later effects are explained by resuspension and, in the case of iodine, by remobilization of gaseous species. Author-abstract.

555

AN 90157731. 90000.
AU Gale-R-P.
TI USSR: follow-up after *Chernobyl* `news:.
SO Lancet. 1990 Feb 17. 335(8686). P 401-2.
JT LANCET.
PT NEWS (NEW).

556

AN 90136730. 90000.
AU Sanchez-A-F.
TI The *Chernobyl* nuclear accident `letter; comment:.
SO N-Engl-J-Med. 1990 Feb 8. 322(6). P 401-2.
JT NEW ENGLAND JOURNAL OF MEDICINE.
PT COMMENT (COM). LETTER (LET).

557

AN 90128492. 90000.
AU Hausler-M. Hofmann-H-M. Wirnsberger-G. Leitner-G. Gell-G.
TI `The incidence of abortion in Steiermark *1985-87--(Chernobyl* 26 April 1986):.
SO Gynakol-Rundsch. 1989. 29 Suppl 2. P 197-9.
JT GYNAKOLOGISCHE RUNDschau.
PT JOURNAL-ARTICLE (ART).

558

AN 90116309. 90000.
AU Ertel-J. Voigt-G. Paretzke-H-G.
IN GSF-Institut fur Strahlenschutz, Neuherberg, Federal Republic of Germany.
TI Weathering of $^{134}/^{137}\text{Cs}$ following leaf contamination of grass cultures in an outdoor experiment.
SO Radiat-Environ-Biophys. 1989. 28(4). P 319-26.
JT RADIATION AND ENVIRONMENTAL BIOPHYSICS.
PT JOURNAL-ARTICLE (ART).

AB After spraying grass cultures with rainwater collected after the *Chernobyl* reactor accident, the time-dependence of the weathering of leaf contamination of ¹³⁴/¹³⁷Cs was determined. Hereby the influence of rain and of biomass increase due to growth was considered. Two effective half-lives were found of 6 d and more than 60 d in rain-protected grass for the activity per area (corresponding to 8 d and more than 60 d when related to the activity per dry weight) and 2 d and 30 d in rain-exposed grass for the activity per area (3 d and 23 d when activity per dry weight is considered). These half-lives represent the initially rapid (for about 90% of the activity) and later slow (for the residual about 10%) decrease of the Cesium content in grass. They might be due to different weathering mechanisms whereby the translocation of the radionuclides from the leaf surface into the plant interior and the loss of wax particles might be of importance. Author-abstract.

559

AN 90115352. 90000.

AU Wellner-U.

IN Institut für klinische und experimentelle Nuklearmedizin,
Universität zu Köln, BRD.

TI `A pharmacokinetic approach to studying the uptake of ¹³⁷Cs by children following the reactor accident at *Chernobyl*.*

SO Nuklearmedizin. 1989 Dec. 28(6). P 243-6.

JT NUKLEARMEDIZIN.

PT JOURNAL-ARTICLE (ART).

AB The course of ¹³⁷Cs content of children after the reactor accident of *Chernobyl* measured by means of a whole-body counter could be reconstructed theoretically by a pharmacokinetic model. The children of the kindergarten of the hospital of the University of Cologne accumulated during the vegetation periods 1986/87 (I) 86.9, 1987/88 (II) 114.4 and 1988/89 (III) 24.4 Bq ¹³⁷Cs per kg body weight. Author-abstract.

560

AN 90113645. 90000.

TI Infant mortality after *Chernobyl* `letter; comment:.

SO Lancet. 1990 Jan 20. 335(8682). P 161-2.

JT LANCET.

PT COMMENT (COM). LETTER (LET).

561

AN 90107353. 90000.

AU Stone-D-H.

TI Responses to *Chernobyl* `letter; comment:.

SO Community-Med. 1989 Aug. 11(3). P 261.

JT COMMUNITY MEDICINE.

PT COMMENT (COM). LETTER (LET).

562

AN 90101699. 90000.

AU Herrmann-A. Schupbach-M-R.

IN Kantonales Laboratorium Basel-Stadt, Schweiz.

TI `The strength of evidence of the food inspection after the *Chernobyl* accident proven by whole body measurements of Basel students:.

SO Z-Lebensm-Unters-Forsch. 1989 Nov. 189(5). P 413-7.

JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.

PT JOURNAL-ARTICLE (ART).

AB The radioactive contamination of the food consumed by the inhabitants of Basel after the *Chernobyl* fallout has been continuously controlled by our laboratory. The activity of ingested Cs-137 has been estimated and is compared here with the activity obtained through whole body counts. The satisfactory correlation between calculated and observed body activities enables an exact estimation of the people's doses applying the same model and demonstrate the reliability of the food control analysis. Author-abstract.

563

AN 90098073. 90000.

AU Baverstock-K-F.

TI Cleaning up after *Chernobyl* `letter:.

SO Nature. 1989 Dec 14. 342(6251). P 744.

JT NATURE.

PT LETTER (LET).

564

AN 90096222. 90000.

AU Savelkoul-T-J. Leenhouts-H-P. Sangster-B.

IN National Poison Control Center, National Institute of Public Health and Environmental Protection, Bilthoven, The Netherlands.

TI The role of Poison Control Centers in radiation accidents.

SO J-Toxicol-Clin-Toxicol. 1989. 27(4-5). P 305-10.

JT JOURNAL OF TOXICOLOGY. CLINICAL TOXICOLOGY.

PT JOURNAL-ARTICLE (ART).

AB In the days after the nuclear reactor accident at *Chernobyl* (USSR) in April 1986, the Dutch Poison Control Center had to answer questions concerning possible health effects caused by (over)exposure to ionizing radiation. These questions were similar to questions asked regarding exposure to toxic agents after chemical accidents. It is obvious that the experience and practical approach of a Poison Control Center in handling toxicological problems can be used in problems concerning ionizing radiation. Author-abstract.

565

AN 90093840. 90000.

AU Muck-K. Streit-S. Steger-F. Mayr-K. Karg-V.

IN Austrian Research Centre Seibersdorf.

TI Estimate of the dose due to ⁹⁰Sr to the Austrian population after the *Chernobyl* accident.

SO Health-Phys. 1990 Jan. 58(1). P 47-58.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB In order to estimate the contribution of ^{90}Sr to the exposure of the Austrian population, the ratio of ^{90}Sr to ^{137}Cs in 126 food samples and nine drinking water samples was determined. From this and the average activity concentration of ^{137}Cs in each type of food as obtained by the measurement of some 100,000 food samples after the *Chernobyl* accident, a good estimate of the average activity concentration of ^{90}Sr in these food items could be obtained. Samples were investigated at various times after the accident to take into account possible changes with time in the ^{90}Sr -activity concentration and its ratio to ^{137}Cs . Also, *pre-Chernobyl* samples were measured to estimate the relative contribution of the reactor accident and the fallout of the atomic bomb testing to the intake of ^{90}Sr . Assuming average food consumption, the intake of ^{90}Sr for an adult person amounted to 168 Bq in the first year and 115 Bq in the second year after the accident, resulting in an effective dose equivalent of 5.9 μSv and 4.0 μSv , respectively. This is a minor fraction of the dose due to the ingestion of Cs isotopes, which amounted to 360 μSv in the first year and 97 μSv in the second year. For the one-year-old infant, a ^{90}Sr intake of 96 Bq (10.5 μSv) in the first year and 65 Bq (7.1 μSv) in the second year is estimated. Approximately 50% of the intake in the first year and 70% of that in the second year are due to ^{90}Sr from nuclear weapons testing. Author-abstract.

566

AN 90093789. 90000.

AU Allwright-S. Daly-L.

TI Acute effects of the *Chernobyl* nuclear accident on Irish mortality?

SO Ir-Med-J. 1989 Sep. 82(3). P 119-21.

JT IRISH MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

AB This report examines the claim that Irish mortality in the second quarter (April-June) of 1986 increased due to the cloud of radioactive material released by the damaged reactor in *Chernobyl.* Over the period 1971-1987, based on date of registration, the death rates in the second quarter showed marked year to year variation often exceeding that expected on the basis of chance alone. In 1986 the percentage of annual deaths occurring between April and June, and the death rate itself, were both significantly higher than in most other years between 1981 and 1987. The 1986 figures were not however, significantly higher than those observed in years prior to 1981. Since the distribution of mortality by cause was not consistent with the hypothesis relating low level radiation to immediate mortality, and since causality cannot be inferred from a temporal association per se, the *Chernobyl* accident cannot be implicated in the excess mortality observed in the second quarter of 1986. Author-abstract.

567

AN 90077832. 90000.

AU Osuch-S. Dabrowska-M. Jaracz-P. Kaczanowski-J. Le-Van-Khoi.
Mirowski-S. Piasecki-E. Szefflinska-G. Szefflinski-Z. Tropio-J. et
al.

IN Institute of Experimental Physics, Warsaw University, Poland.

TI Isotopic composition of high-activity particles released in the
Chernobyl accident.

SO Health-Phys. 1989 Nov. 57(5). P 707-16.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Gamma spectra were measured and activities of the detected isotopes
were analyzed for 206 high-activity particles (hot particles, HPs)
found in northeastern Poland after the *Chernobyl* accident. The
isotopic composition of HPs observed in gamma-activity is compared
with that of the general fallout and core inventory calculations.
Particle formation and a process of depletion in Ru and Cs isotopes
are discussed. On the basis of a search performed a year later, some
comments on the behavior of HPs in the soil are made.
Author-abstract.

568

AN 90077831. 90000.

AU Gudiksen-P-H. Harvey-T-F. Lange-R.

IN Lawrence Livermore National Laboratory, Livermore, CA 94550.

TI *Chernobyl* source term, atmospheric dispersion, and dose estimation.

SO Health-Phys. 1989 Nov. 57(5). P 697-706.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The *Chernobyl* source term available for long-range transport was
estimated by integration of radiological measurements with
atmospheric dispersion modeling and by reactor core radionuclide
inventory estimation in conjunction with WASH-1400 release fractions
associated with specific chemical groups. These analyses indicated
that essentially all of the noble gases, 60% of the radioiodines, 40%
of the radiocesium, 10% of the tellurium, and about 1% or less of the
more refractory elements were released. Atmospheric dispersion
modeling of the radioactive cloud over the Northern Hemisphere
revealed that the cloud became segmented during the first day, with
the lower section heading toward Scandinavia and the upper part
heading in a southeasterly direction with subsequent transport across
Asia to Japan, the North Pacific, and the west coast of North
America. The inhalation doses due to direct cloud exposure were
estimated to exceed 10 mGy near the *Chernobyl* area, to range between
0.1 and 0.001 mGy within most of Europe, and to be generally less
than 0.00001 mGy within the United States. The *Chernobyl* source term
was several orders of magnitude greater than those associated with
the Windscale and TMI reactor accidents. However, the ¹³⁷Cs from the
Chernobyl event is about 6% of that released by the U.S. and
U.S.S.R. atmospheric nuclear weapon tests, while the ¹³¹I and ⁹⁰Sr

released by the *Chernobyl* accident was only about 0.1% of that released by the weapon tests. Author-abstract.

569

AN 90069946. 90000.

AU Guskova-A-K. Baranov-A-E. Barabanova-A-V. Moiseev-A-A. Piatkin-E-K.

TI `The diagnosis, clinical picture and treatment of acute radiation sickness in the victims of the *Chernobyl* Atomic Electric Power Station. II. Non-bone marrow syndromes of radiation lesions and their treatment:.

SO Ter-Ark. 1989. 61(8). P 99-103.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

AB Out of 115 victims to the breakdown, 56 persons had radiation burns, 17 the intestinal syndrome, 80 the oropharyngeal syndrome, and 7 interstitial radiation pneumonitis. In the lethal outcome, of crucial importance were radiation burns (over 40% of the body surface) (19 persons) and radiation pneumonitis (7 persons). The grave intestinal and oropharyngeal syndromes were accompanied by other fatal manifestations of radiation injuries. Hemoperfusion, plasmapheresis, continuous heparinization and administration of freshly frozen plasma did not bring about any improvement. The local use of different remedies under aseptic conditions was the leading method of the treatment of radiation burns in the acute period. Parenteral feeding turned out to produce a beneficial effect in the treatment of the intestinal and oropharyngeal syndromes. Author-abstract.

570

AN 90065942. 90000.

AU Ilin-L-A. Balonov-M-I. Buldakov-L-A. Buriak-V-N. Gordeev-K-I.

TI `The ecological characteristics and biomedical consequences of the accident at the *Chernobyl* Atomic Electric Power Station:.

SO Med-Radiol (Mosk). 1989 Nov. 34(11). P 59-81.

PT JOURNAL-ARTICLE (ART).

571

AN 90061710. 90000.

AU Saari-H. Luokkanen-S. Kulmala-M. Lehtinen-S. Raunemaa-T.

IN University of Helsinki, Department of Physics, Finland.

TI Isolation and characterization of hot particles from *Chernobyl* fallout in southwestern Finland.

SO Health-Phys. 1989 Dec. 57(6). P 975-84.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Three types of activity composition have been found in airborne hot particles that were transported long distances from the *Chernobyl* accident. Their characterization is based on the analysis of single particles isolated from Pinus Sylvestris needles. The average

activity of the particles was 130 Bq at the time of the accident. The most common type of particle contains the radioactive species ^{141}Ce , ^{144}Ce , ^{95}Zr and ^{95}Nb ; the second type includes ^{103}Ru and ^{106}Ru along with the previous isotopes; and the third contains ^{103}Ru and ^{106}Ru only. Cesium-134 and -137 were present only in very small amounts. The activity composition of the *Chernobyl* reactor core fuel was similar to the composition of the first and second type particle; apparently the core fuel was only partially volatilized. The main bulk composition of the particles is shown to be U. The average aerodynamic size of the identified hot particles is 10 microns. The particles are rectangular or pentagonal in shape. Author-abstract.

572

AN 90061709. 90000.

AU Voigt-G. Muller-H. Prohl-G. Paretzke-H-G. Propstmeier-G.
Rohrmoser-G. Hofmann-P.

IN GSF-Institut für Strahlenschutz, Neuherberg, Federal Republic of Germany.

TI Experimental determination of transfer coefficients of ^{137}Cs and ^{131}I from fodder into milk of cows and sheep after the *Chernobyl* accident.

SO Health-Phys. 1989 Dec. 57(6). P 967-73.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Following the *Chernobyl* accident in April 1986, the transfer of ^{131}I and ^{137}Cs from feed to milk was studied under experimental and common agricultural conditions. From measurements in different dairy farms in Southern Bavaria, equilibrium transfer coefficients for cow's milk were calculated to be 0.003 d L^{-1} (range 0.0015 to 0.005) for ^{131}I and 0.003 d L^{-1} (range 0.0025 to 0.004) for ^{137}Cs . In feeding experiments with cows and sheep under more controlled conditions, milk transfer coefficients of 0.007 d L^{-1} (range 0.0055 to 0.0081) for ^{131}I and 0.003 d L^{-1} (range 0.0023 to 0.0053) for ^{137}Cs were obtained for cows, while for sheep the ^{137}Cs transfer coefficient was higher: 0.06 d L^{-1} . The kinetics of the Cs transfer from fodder to cow's milk can be described by two exponential terms assuming biological half-lives in milk of 1-2 d and 10-20 d. The use of a fast component with 1.5 d and a fraction of 0.8, and a slow component with 15 d, gives a good approximation to the kinetics for all cows in this experiment. Author-abstract.

573

AN 90061708. 90000.

AU Mihok-S. Schwartz-B. Wiewel-A-M.

IN Whiteshell Nuclear Research Establishment, Atomic Energy of Canada Limited Research Company, Pinawa, Manitoba.

TI Bioconcentration of fallout ^{137}Cs by fungi and red-backed voles (*Clethrionomys gapperi*).

SO Health-Phys. 1989 Dec. 57(6). P 959-66.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Cesium-137 and 40K concentrations were measured in vegetation and in red-backed voles (*Clethrionomys gapperi*) in southeastern Manitoba, Canada, following the *Chernobyl* accident in 1986. Voles from wet coniferous habitats contained concentrations of 137Cs twenty- to fiftyfold higher than voles from deciduous habitats. Maximum 137Cs values were observed in autumn. Voles captured in a spruce bog at this time contained an average body burden of about 11 Bq. Concentrations in vegetation samples were similar to those found by other researchers. Overall, there was only minimal evidence of contamination attributable to *Chernobyl* in either vegetation or voles. The primary source of 137Cs in voles appeared to be dietary, particularly mushrooms that contained up to 74 Bq g⁻¹ ash. Based on physiological constraints, mushrooms were the only plausible source of 137Cs in autumn diets. Elevated values at other times in coniferous areas may have been related to the consumption of epiphytic lichens. These findings suggest that fungi, or the animals that consume them, can serve as sensitive indicators of 137Cs contamination in the environment. Author-abstract.

574

AN 90061685. 90000.

AU Hayball-M-P. Dendy-P-P. Palmer-K-E. Szaz-K-F. Webster-M-J. Whittaker-M-V.

IN Department of Nuclear Medicine, Addenbrooke's Hospital, Cambridge, England.

TI *Chernobyl* radioactivity in a Turkish tea drinker.

SO Health-Phys. 1989 Dec. 57(6). P 1017-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

575

AN 90055504. 90000.

AU Baranov-A-E. Shishkova-T-V. Protasova-T-G. Davydovskaia-T-I.

TI `Combined antibiotic therapy of acute radiation disease in persons affected during the accident at the *Chernobyl* nuclear power station:.

SO Antibiot-Khimioter. 1989 Jul. 34(7). P 555-8.

JT ANTIBIOTIKI I KHIMIOTERAPIIA.

PT JOURNAL-ARTICLE (ART).

AB One hundred and fifteen patients with acute radiation disease of degrees I to IV affected during the accident at the *Chernobyl* APS were treated in a specialized hospital. The anti-infection regimen included isolation, air sterilization with ultraviolet light, intravenous administration of broad spectrum of antibiotics (gentamicin, cephalosporins and carbenicillin) and nystatin. Some cases were treated with amphotericin. Some cases were treated with amphotericin B. Out of 22 patients who died at the early periods (days 14 to 34) or at the period of agranulocytosis in 7 patients sepsis was stated. In 5 of them it was complicated by pneumonia. In 5 patients who died at the late periods (days 48 to 99) or at the period of hemopoiesis normalization infectious complications by the

death moment were stated: sepsis in 3 patients and pneumonia in 2 patients. The aspect of the microbiological diagnosis and therapy efficacy is discussed. Author-abstract.

576

AN 90049142. 90000.

AU Beresford-N-A.

IN Institute of Terrestrial Ecology, Merlewood Research Station, Cumbria, Great Britain.

TI The transfer of Ag-110m to sheep tissues.

SO Sci-Total-Environ. 1989 Sep. 85. P 81-90.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The transfer of Ag-110m from the *Chernobyl* fallout to sheep tissues is discussed. Ag-110m was only detected in the liver and occasionally the brain of the sheep analysed. The transfer of Ag-110m associated with perennial rye-grass, harvested soon after deposition in 1986, was greater to the liver of both ewes and lambs than that of Cs-137. Transfer coefficients of Ag-110m for lamb liver exceeded those for ewe livers. However, in a 1987 field study there was no difference between transfer coefficients of Ag-110m for ewes and lambs. It is suggested that there is a slow turnover of Ag-110m in the liver of sheep and that unlike radiocaesium, Ag-110m from the *Chernobyl* fallout did not become more available once incorporated into plant tissues. Author-abstract.

577

AN 90049136. 90000.

AU Voigt-G. Prohl-G. Muller-H. Bauer-T. Lindner-J-P. Probstmeier-G. Rohrmoser-G.

IN GSF-Institut fur Strahlenschutz, Neuherberg, F.R. Germany.

TI Determination of the transfer of cesium and iodine from feed into domestic animals.

SO Sci-Total-Environ. 1989 Sep. 85. P 329-38.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The transfer of 131I and 137Cs, released after the *Chernobyl* accident, into domestic animals was studied experimentally in order to determine transfer coefficients from feed into animal products under realistic conditions. The 137Cs transfer coefficients for meat were calculated to be: 0.01 d/kg beef (cow), 0.038 d/kg beef (heifer), 0.038 d/kg beef (bull), 0.35 d/kg veal, 0.4 d/kg pork, 0.33 d/kg sheep, 0.28 d/kg fallow deer and 1.3 d/kg chicken. The transfer coefficients for cow's milk were calculated to be 0.007 d/l (131I) and 0.003 d/l (137Cs), and for sheep's milk 0.06 d/l (137Cs). In egg-white and yolk transfer coefficients for 137Cs of 0.2 and 0.1 d/kg, respectively, could be determined. Biological half-lives and the influence of feed additives on the activity concentrations in meat and animal products are described. Author-abstract.

578

AN 90049135. 90000.

AU Giese-W-W.

IN Department of Medical Physics, School of Veterinary Medicine,
Hannover, Germany.

TI Countermeasures for reducing the transfer of radiocesium to animal
derived foods.

SO Sci-Total-Environ. 1989 Sep. 85. P 317-27.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The nuclear reactor accident in *Chernobyl* stimulated new discussions and experiments on the question, how and to what extent the radiocesium-concentration in animal derived foods can be reduced. In a brief review this paper describes the use of two groups of feed additives as already applied in laboratory experiments during the period of atmospheric atomic weapons tests to prevent radiocesium absorption in the gastro-intestinal tract: 1) Iron (III) -Hexacyanoferrates and 2) Clay minerals. In the *post-Chernobyl-period* pilot studies were initiated to test similar feed additives under practical farming conditions with "naturally" radiocesium-labeled feedstuffs. Since then it is obvious that the colloidal Prussian blue analogue Ammonium-Ferric-Cyanoferrate (AFCF) can be considered as a leading antidote against radiocesium, while Bentonite or Bolus alba are 88-266 times less effective, when compared on a weight basis. Additionally clay materials cause losses of minerals and trace elements and pose logistic problems when feeding millions of large animals. Because of the small doses needed AFCF appears as a substance of choice to reduce radiocesium burdens in animal derived foods, which gained full recognition by health authorities in W-Germany and Austria supported by an official clearance for the use as feed additive. Author-abstract.

579

AN 90049134. 90000.

AU Mitchell-N-G. Coughtrey-P-J. Beetham-C-J. Hughes-J-G. Clench-S-F.
Walters-B.

IN Associated Nuclear Services Ltd., Epsom, Surrey, UK.

TI Transfer of caesium from silage to cows milk: observations and
models.

SO Sci-Total-Environ. 1989 Sep. 85. P 307-16.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The transfer of radiocaesium from silage, contaminated as a result of the *Chernobyl* accident, to cows milk was studied in a feeding trial at Trawsgoed Experimental Husbandry Farm. Feed and milk samples obtained from the cows were analysed for Cs-137 and Cs-134 during the 124 days cows were fed contaminated silage and for a further 32 days when cows were fed uncontaminated material. The trial also involved the addition of bentonite supplements to the diet of some animals. Supplements of 250 g and 500 g sodium bentonite per day reduced

Cs-137 transfer factors to milk to 0.63 and 0.33 of the control values respectively after 78 days of feeding. No effects of bentonite supplementation on the absorption of other elements were detected. The results for animals not given a supplement are compared with the cow-milk model implemented in the SPADE suite of codes, using both default parameters and input data and parameters derived from the feeding trial. The model overpredicted observed milk concentrations by a factor of 2 to 3. Reasons for this and alternative models are discussed. The sensitivity of the model to parameter selection is also emphasized. Author-abstract.

580

AN 90049133. 90000.

AU Assimakopoulos-P-A. Ioannides-K-G. Pakou-A-A.

IN Nuclear Physics Laboratory, University of Ioannina, Greece.

TI The propagation of the *Chernobyl* 131I impulse through the air- grass- animal- milk pathway in northwestern Greece.

SO Sci-Total-Environ. 1989 Sep. 85. P 295-305.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB A three-compartment (air- grass-milk) milk contamination model for 131I has been applied to atmospheric, grass and milk data, following the April 1986 nuclear accident at *Chernobyl.* Samples of ovine and bovine milk collected daily by a large dairy company in Ioannina (northwestern Greece), throughout the month of May 1986 have been employed. The contamination impulse in the area, which provides the input to the model, has been approximated by a first order gamma-variate curve. Transfer rates and decay constants have been extracted by fitting predictions of the model independently to each set of data (air, grass and milk). All model parameters obtained from more than one set of data show remarkable consistency. These parameters are used to calculate the transfer coefficients fm for the transport of radioiodine at equilibrium for sheep and cows. Author-abstract.

581

AN 90049128. 90000.

AU Mayes-R-W. Lamb-C-S.

IN Macaulay Land Use Research Institute, Pentlandsfield, Roslin, Midlothian.

TI A possible method for estimating the true absorption coefficient for radiocaesium in ruminants.

SO Sci-Total-Environ. 1989 Sep. 85. P 263-6.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB A method has been described for estimating the true absorption coefficient for radiocaesium. The ratio of the excretion of 137Cs in the faeces to that excreted in the urine was estimated in housed ewes and lambs offered a radiocaesium-free diet for 16-22 days, after previously grazing a pasture contaminated with *Chernobyl* fall-out.

There was a two-fold range in the faeces:urine excretion ratio. The ratios obtained were used to estimate the the faecal ^{137}Cs of endogenous origin from the urinary excretion rates of ewes given diets contaminated with radiocaesium from *Chernobyl* or from marine effluent from BNFL, Sellafield, and hence the true absorption coefficient could be determined. The observed variations in faeces:urine excretion ratios had little effect upon the estimates of true absorption coefficient. Author-abstract.

582

AN 90049124. 90000.

AU Dodd-N-J. Bussell-M-J. Wilkins-B-T.

IN National Radiological Protection Board, Didcot, Oxon, United Kingdom.

TI The measurement of radiocaesium in sheep by an in vivo technique.

SO Sci-Total-Environ. 1989 Sep. 85. P 225-33.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB This paper discusses the use of a large sodium iodide detector to determine gamma-ray emitting radionuclides in living animals, and in particular the application of the technique to investigations that have followed the *Chernobyl* reactor accident. A series of experiments to validate the technique is presented. The detector and its associated electronics and data collection equipment are sufficiently robust for use in the field, and ancillary equipment to immobilize subjects such as sheep and cattle are readily available. Although the in vivo procedure underestimates activity concentrations in muscle tissue compared to results from samples obtained post mortem, the advantage is that the same animal can be measured repeatedly and reproducibly. Author-abstract.

583

AN 90049122. 90000.

AU Jones-B-E. Eriksson-O. Nordkvist-M.

IN Department of Clinical Chemistry, College of Veterinary Medicine, Swedish University of Agricultural Sciences, Uppsala.

TI Radiocaesium uptake in reindeer on natural pasture.

SO Sci-Total-Environ. 1989 Sep. 85. P 207-12.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB In an experiment initiated after the *Chernobyl* accident, a herd of reindeer was followed before and after a temporary move from a highly contaminated area (greater than $20 \text{ kBq } ^{137}\text{Cs}/\text{m}^2$) to a less contaminated area (less than $3 \text{ kBq } ^{137}\text{Cs}/\text{m}^2$) of natural pasture. The animals grazed in a highly contaminated area until they were moved to the low contaminated area where they grazed from late November to late April. The level of ^{137}Cs in meat was about 12 kBq/kg at the time when the animals were moved (Nov.) to the low contaminated area and it decreased to about 3 kBq/kg with an effective half-time of about 1 month, after the animals were moved. In the low contaminated area the fractional transfer, f_m , of ^{137}Cs was determined to be 0.65

d/kg during winter pasture, mainly on lichens, and 0.30 d/kg during summer pasture, in the fields. The actual intake of radiocesium was determined by measurement of ruminal samples from slaughtered animals. The maximal radiation dose to reindeer in Sweden after the *Chernobyl* accident was estimated to less than 200 mSv/a with a dose rate of less than 1mSv/d during the winter period of maximum tissue concentration of radiocesium. Author-abstract.

584

AN 90049121. 90000.

AU Rissanen-K. Rahola-T.

IN Finnish Centre for Radiation and Nuclear Safety, Helsinki.

TI Cs-137 concentration in reindeer and its fodder plants.

SO Sci-Total-Environ. 1989 Sep. 85. P 199-206.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Radionuclides, especially the long-lived ¹³⁷Cs (physical half-life 30 years), are accumulated efficiently in the northern, subarctic, lichen-reindeer-man foodchain. Until the *Chernobyl* accident the fallout nuclides studied originated from nuclear weapons tests. After this accident some fresh fallout was deposited in Finnish Lapland. Lichens grow very slowly and collect nutrients very efficiently from air, rain and snow. During winter the basic fodder plants for reindeer are lichens and some winter-green plants, shrubs and dry leaves. During the bare-ground season, the reindeer eat various grasses, herbs and leaves etc. Lichens constitute 30-50 per cent of the entire vegetable mass consumed by the reindeer in a year. The highest ¹³⁷Cs-concentration 2500 Bq/kg dry weight was found in lichen in the middle of the 1960s. In 1985 the concentration had decreased to about 240 Bq/kg dry weight. After the *Chernobyl* accident the ¹³⁷Cs-concentration in lichen varied from 200 to 2000 Bq/kg dry weight in Finnish Lapland. In reindeer fodder plant samples collected in the 1980s before the *Chernobyl* accident the ¹³⁷Cs-concentration varied from 5 to 970 Bq/kg dry weight. The highest ¹³⁷Cs-concentration in reindeer meat, about 2500 Bq/kg fresh weight, was found in 1965 and thereafter decreased to about 300 Bq/kg fresh weight in the winter before the *Chernobyl* accident. After the accident the mean ¹³⁷Cs-concentration in reindeer meat from the 1986-87 slaughtering period was 720 Bq/kg fresh weight and in 1987-88, 630 Bq/kg fresh weight. Author-abstract.

585

AN 90049119. 90000.

AU Voors-P-I. Van-Weers-A-W.

IN Netherlands Energy Research Foundation ECN, Petten, NH.

TI Transfer of *Chernobyl* ¹³⁴Cs and ¹³⁷Cs in cows from silage to milk.

SO Sci-Total-Environ. 1989 Sep. 85. P 179-88.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The transfer of *Chernobyl* Cs-134 and Cs-137 to milk in dairy cows

from a diet, predominated by silage, was studied under normal farming conditions. The study was carried out in the period December 1986 till August 1987 and comprised three periods with different levels of radioactive contamination of the silage. Transfer coefficients for both radionuclides were derived from measured radiocaesium concentrations in the diet components and in mixed milk samples. Average silage intake was calculated on basis of total need which depends on milk production. The transfer coefficients calculated for Cs-134 and Cs-137 after a 6 weeks feeding period of high-level *post-Chernobyl* silage were 0.26 and 0.27% d/l, respectively. These results indicate that a transfer coefficient of 1.2% d/l, from tracer and fallout studies and recommended for predictive purposes, is a conservative estimate in view of the *post-Chernobyl* experience. The transfer of caesium isotopes from silage to milk in dairy cows is dynamically described with a simple two-compartment model of Pelletier and Voilleque. The most important choices of parameter values to be made in matching calculated and measured concentrations in milk, are those for F and u/m. F is the fraction of ingested activity that is excreted in milk plus urine, and u/m is the ratio between the transfer rates to urine and milk, respectively. The study was carried out with financial support from the Dutch Ministry of Agriculture and Fishery. Author-abstract.

586

AN 90049118. 90000.
AU van-den-Hoek-J.
IN Laboratory of Animal Physiology, Wageningen, The Netherlands.
TI European research on the transfer of radionuclides to animals--a historical perspective.
SO Sci-Total-Environ. 1989 Sep. 85. P 17-27.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB A review is given of the most important research carried out in European countries in the time period between the onset of atmospheric nuclear testing in 1954 and the reactor accident at *Chernobyl* in 1986. Some significant results obtained in these investigations are also presented. Author-abstract. 32 Refs.

587

AN 90049117. 90000.
AU Belli-M. Drigo-A. Menegon-S. Menin-A. Nazzi-P. Sansone-U. Toppano-M.
IN Italian Directorate for Nuclear Safety and Health Protection (ENEA-DISP/ARA-SCA) Rome.
TI Transfer of *Chernobyl* fall-out caesium radioisotopes in the cow food chain.
SO Sci-Total-Environ. 1989 Sep. 85. P 169-77.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB From February to October 1987 samples of milk, grass and other

components of the cow diet were regularly collected and analyzed for their radiocaesium contents in 26 sampling stations in a north-eastern region of Italy (Friuli-Venezia Giulia). In this paper we report the feed-to-milk transfer factors for radiocaesium obtained in 13 farms of this region of Italy. Author-abstract.

588

AN 90049116. 90000.

AU McAulay-I-R. Colgan-P-A. Moran-D.

IN Department of Physics, Trinity College, Dublin, Ireland.

TI Measurements on retention and transfer characteristics of radiocaesium from poor quality upland soils to heather and from heather to sheep.

SO Sci-Total-Environ. 1989 Sep. 85. P 159-67.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB This paper presents results from initial measurements of Cs-134, Cs-137 and K-40 activities made on poor quality upland soils and associated *Calluna vulgaris* vegetation. Soil-plant radiocaesium and potassium relationships were investigated. *Chernobyl* caesium shows a higher concentration ratio from soil to heather compared to the older weapons-test caesium. Significant radiocaesium levels have been measured (both in vivo and in vitro) in sheep grazing four sites. There was a significant correlation found between radiocaesium concentrations in sheep and activity deposited in the soil. Author-abstract.

589

AN 90049114. 90000.

AU Vreman-K. van-der-Struijs-T-D. van-den-Hoek-J. Berende-P-L. Goedhart-P-W.

IN Institute for Livestock Feeding and Nutrition Research, Lelystad, The Netherlands.

TI Transfer of Cs-137 from grass and wilted grass silage to milk of dairy cows.

SO Sci-Total-Environ. 1989 Sep. 85. P 139-47.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Deposition of radiocaesium from the *Chernobyl* reactor accident on the Netherlands made it possible to collect contaminated fresh grass and first cut wilted grass silage. These contaminated roughages were used in transfer experiments with lactating dairy cows to determine transfer coefficients and half-lives for Cs-137 in milk. The experimental design was based on three consecutive periods: a preliminary period to determine the background concentration of the isotope in milk, a contamination period to determine the magnitude of accumulation and finally a depletion period to measure the rate at which the activity concentration of Cs-137 in milk declined after continuous feeding. The average transfer coefficient (F_{milk}) for cows fed on contaminated dried grass under steady-state conditions

was 0.002 d/kg and for cows fed on slightly contaminated second cut fresh grass 0.006 d/kg. The highest transfer coefficients were obtained for cows fed on contaminated grass silage for 119 days, which also included the dry period of about two months. For the first five days after calving the Fmilk values varied from 0.0066 to 0.0091 d/kg. There were no significant differences in transfer coefficients between cows in early lactation (third month of lactation), cows in late lactation (the last month of the lactation period) and cows fed on both contaminated grass silage and uncontaminated maize silage simultaneously. Half-life values for the rate of decline of the isotope in milk during the depletion period were estimated on the basis of a mathematical model with two exponential components. These components were characterized by half-lives of 0.5 to 3.5 days and 10 to 46 days. Author-abstract.

590

AN 90049113. 90000.

AU Fulker-M-J. Grice-J-M.

IN Environmental Protection Group, Seascale, Cumbria, United Kingdom.

TI Transfer of radiocaesium from grass and silage to cows' milk.

SO Sci-Total-Environ. 1989 Sep. 85. P 129-38.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The transfer of Cs137 from grass and silage to milk has been followed in detail for one farm in West Cumbria over the year following the deposition from the *Chernobyl* reactor accident. At this farm about 40% of the Cs137 in milk was attributed to the feeding of silage during the following winter. A wider study of an additional 14 farms showed considerable variations in the contributions from grazing and silage. The transfer quotient from silage to milk was comparable with the values measured for grass over the first few weeks and lower than values reached later in the grazing season. Author-abstract.

591

AN 90049112. 90000.

AU Bradley-E-J. Wilkins-B-T.

IN National Radiological Protection Board, Didcot, Oxon, United Kingdom.

TI Influence of husbandry on the transfer of radiocaesium from feed to milk during the winter that followed the *Chernobyl* reactor accident.

SO Sci-Total-Environ. 1989 Sep. 85. P 119-28.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The release of activity from the *Chernobyl* nuclear reactor resulted in deposition of radionuclides throughout the UK in early May 1986. Since that time, the transfer of radiocaesium from feed to milk has been followed at two farms that differ in both location and husbandry practice. This paper concerns the winter of 1986/87, when activity concentrations in milk increased because of the consumption of silage prepared earlier in the year. Silage-to-milk transfer coefficients have been estimated which suggest that, when incorporated into

prepared silage, radiocaesium from *Chernobyl* is less available for transfer to cows' milk than soluble caesium-134 applied directly onto pasture. The measured activity concentrations in milk have been compared with those predicted by the NRPB model FARMLAND; despite differences between the husbandry practice assumed in the model and those observed in practice, the model provides an adequate radiological assessment of the feed-cow-milk pathway after an accidental release of radioactivity. Author-abstract.

592

AN 90044026. 90000.
AU Rich-V.
TI *Chernobyl*: lax standards confirmed `news:..
SO Nature. 1989 Nov 2. 342(6245). P 10.
JT NATURE.
PT NEWS (NEW).

593

AN 90042772. 90000.
AU Luning-G. Scheer-J. Schmidt-M. Ziggel-H.
IN Physics Department, Universitat Bremen, West Germany.
TI Early infant mortality in West Germany before and after *Chernobyl*
`see comments:..
SO Lancet. 1989 Nov 4. 2(8671). P 1081-3.
JT LANCET.
PT JOURNAL-ARTICLE (ART).
AB Early infant mortality rates in West Germany were plotted for regions with different radioactive burdens following the *Chernobyl* nuclear reactor explosion in April, 1986. In all regions, the logarithms of the mortality rates fitted a linear model between 1975 and 1985, but from May, 1986, immediately after the accident, there was a striking deviation from the model in areas with greatest radioactive fallout. Author-abstract.

594

AN 90042240. 90000.
AU Newcomb-M-D.
TI Assessment of nuclear anxiety among American students: stability over time, secular trends, and emotional correlates.
SO J-Soc-Psychol. 1989 Oct. 129(5). P 591-608.
JT JOURNAL OF SOCIAL PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
AB Studies of reactions and attitudes toward nuclear war have progressed from the use of anecdotal evidence to multi-item psychological measures. Additional psychometric data and substantive results of the Nuclear Attitudes Questionnaire (NAQ; Newcomb, 1986) are reported here. Data from three independent samples of students from the United States collected in 1984, 1986, and 1987 were compared and contrasted. The 1986 data were obtained immediately following the *Chernobyl* nuclear power plant accident. Test-retest reliability of

the NAQ items and subscales was quite high and comparable among samples and established the across-time stability of the measure. There were several secular trends across years on items and subscales, indicating some increased concern about nuclear power (particularly in 1986), but also a general increase in nuclear concerns, fears, and anxiety. Anticipated sex differences were found on many of the NAQ items and subscales. Correlations between the NAQ subscales and the nine SCL-90-R scales (Derogatis, 1977) were consistent for the 1986 and 1987 samples. In latent variable analyses, a general factor of Emotional Distress was significantly correlated with a general factor of Nuclear Anxiety, as well as specifically with nuclear concern and fear for the future.

Author-abstract.

595

AN 90020986. 90000.

AU Jandl-J. Novosad-J. Francova-J. Prochazka-H.

TI `Removal of cesium from deer meat:.

SO Vet-Med (Praha). 1989 Aug. 34(8). P 485-90.

JT VETERINARNI MEDICINA.

PT JOURNAL-ARTICLE (ART).

AB The effects of pickle-curing on a decrease in the cesium-nuclides amount in red-deer meat were investigated. This meat was contaminated through ingestion of natural feed in seasons after the fall-out from *Chernobyl* accident. Two pickles were studied: vinegar solution and the same one with added vegetables and spices. The pickle curing was carried out at temperatures of 5 degrees C and 11 degrees C after cutting the meat into little pieces of about 1.5 cm. A decrease in cesium activity was measured by means of gamma-spectrometry at given time intervals after the process was started. It was proved that the efficiency of this process is mostly influenced by replacement of the pickle solution and by the duration of the process. A decrease in the cesium activity of about 80% was achieved without the change of the pickle after seven hours of curing. But after the same time and one pickle solution change, the activity decrease reached more than 90%. No important influence of added vegetables and spices into the pickle nor of the temperature between 5 degrees C and 11 degrees C was observed. Author-abstract.

596

AN 90018268. 90000.

AU Arndt-D. Schmidt-W.

TI `Medical aspects of the nuclear accident at the *Chernobyl* nuclear power station. A meeting report on the All-Union Conference in Kiev with conclusions:.

SO Radiobiol-Radiother (Berl). 1989. 30(4). P 287-96.

JT RADIOBIOLOGIA, RADIOTHERAPIA.

PT JOURNAL-ARTICLE (ART).

597

AN 90015175. 90000.

AU Germenchuk-I.

TI *Chernobyl* clean-up. Resettlement demands `news:.

SO Nature. 1989 Oct 19. 341(6243). P 561.

JT NATURE.

PT NEWS (NEW).

598

AN 90008243. 90000.

AU Simopoulos-S-E.

IN Nuclear Engineering Section, National Technical University of Athens, Greece.

TI Soil sampling and 137Cs analysis of the *Chernobyl* fallout in Greece.

SO Int-J-Rad-Appl-Instrum `A:. 1989. 40(7). P 607-13.

JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART A, APPLIED RADIATION AND ISOTOPES.

PT JOURNAL-ARTICLE (ART).

AB A total of 1242 samples of soil, collected over Greece, during the period May-November 1986, were counted and analysed for 137Cs from *Chernobyl* fallout. The counting was performed using a NaI detector on-line to a microcomputer, moreover, 252 of the samples were also analysed using Ge detectors, for inter-comparison and also for the assessment of other long-lived isotopes in the fallout. The results show that 137Cs fallout from *Chernobyl* presents a remarkable geographical variability. The evaluated ground activity due to 137Cs deposition ranges between 0.01 and 137 kBq/m2. Author-abstract.

599

AN 90008191. 90000.

AU Mirell-S-G. Blahd-W-H.

IN Nuclear Medicine Ultrasound Service, Wadsworth Division, Veterans Administration Medical Center, West Los Angeles, CA 90073.

TI Biological retention of fission products from the *Chernobyl* plume.

SO Health-Phys. 1989 Oct. 57(4). P 649-52.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

600

AN 90008183. 90000.

AU Bunzl-K. Kracke-W.

IN Gesellschaft fur Strahlen- und Umweltforschung Munchen, Institut fur Strahlenschutz, Neuherberg, Federal Republic of Germany.

TI Seasonal variation of soil-to-plant transfer of K and fallout 134,137Cs in peatland vegetation.

SO Health-Phys. 1989 Oct. 57(4). P 593-600.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB For three plants from a peat bog (*Trichophorum caespitosum*, *Molinia coerulea*, *Calluna vulgaris*) the concentration of 137Cs, the ratio 137Cs:134Cs, and stable K was determined in intervals of about 14 d

from June to November 1987. The results show that for two grasses, *Trichophorum caespitosum* and *Molinia coerulea* (which have only perennial roots but sprout every year while the old leaves wither), the concentration of ¹³⁷Cs decreased considerably during the growing season (1800-240, respectively, 4000-320 Bq kg⁻¹ dry weight). A remarkably similar behavior was observed for the seasonal variability of K and radiocesium in the two grass species, which resulted in a nearly constant ratio of ¹³⁷Cs:K during the year. In contrast, for the evergreen plant *Calluna vulgaris* (heather) which was contaminated surficially by the *Chernobyl* fallout, the concentrations of K and ¹³⁷Cs were rather constant during 1987 (leaves about 10,000; stems about 5000 Bq kg⁻¹ dry weight), even though radiocesium was taken up by the leaves and transported within the plant. For the two grasses, the plant:soil concentration ratios (CR) were obtained separately for total ¹³⁷Cs, ¹³⁷Cs from the global fallout, and *Chernobyl-derived* ¹³⁷Cs. The CR of ¹³⁷Cs from the global fallout decreased for *Trichophorum caespitosum* from 1.9 in the spring to 0.08 in the autumn, and for *Chernobyl-derived* ¹³⁷Cs from 1.4 to 0.2. For *Molinia coerulea*, a similar behavior was observed. Possible reasons for the seasonal variability of the CR values and the different behavior of ¹³⁷Cs from the global fallout and from the *Chernobyl* debris are discussed.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

601

AN 90008182. 90000.

AU Ward-G-M. Keszthelyi-Z. Kanyar-B. Kralovanszky-U-P. Johnson-J-E.
IN Department of Animal Sciences, Colorado State University, Fort Collins 80523.

TI Transfer of ¹³⁷Cs to milk and meat in Hungary from *Chernobyl* fallout with comparisons of worldwide fallout in the 1960s.

SO Health-Phys. 1989 Oct. 57(4). P 587-92.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Transfer coefficients for ¹³⁷Cs from the *Chernobyl* accident were determined for milk (Fm) and meat (Ff) of cows and sheep in Hungary. Fm and Ff for both cows and sheep fed forage harvested within 1 mo of the accident were lower than results reported for worldwide fallout from weapons tests. Forage harvested 60 d or later after the accident produced an Fm similar to results from feeding soluble ¹³⁴Cs. The results are interpreted to indicate three distinct categories of Fm about 2.0×10^{-3} , 4.0×10^{-3} and 1.4×10^{-2} d L⁻¹, respectively, for *Chernobyl* fallout, worldwide fallout and soluble Cs isotopes or ¹³⁷Cs contained in plants from soil uptake. Author-abstract.

602

AN 90008181. 90000.

AU Howard-B-J. Mayes-R-W. Beresford-N-A. Lamb-C-S.

IN Institute of Terrestrial Ecology, Merlewood Research Station, Grange-over-Sands, Cumbria, Scotland.

TI Transfer of radiocesium from different environmental sources to ewes and suckling lambs.
SO Health-Phys. 1989 Oct. 57(4). P 579-86.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Indoor experiments are described that compare the transfer of radiocesium to ewe and lamb tissues from different sources. Lactating ewes were fed either perennial ryegrass contaminated by *Chernobyl* fallout, or saltmarsh vegetation contaminated by marine discharges from the Sellafield reprocessing plant. The transfer to ewe tissues and milk was greater from the *Chernobyl* contaminated herbage than from saltmarsh vegetation. Lambs receiving a mixture of vegetation and milk were given radiocesium from one of the two vegetation sources or from milk obtained from the experimental ewes. Transfer to lamb tissues declined in the order milk greater than *Chernobyl* fallout greater than Sellafield discharge. The radiocesium transfer to lamb tissues exceeded that to ewe tissues. Transfer coefficients for ^{137}Cs in the *Chernobyl* fallout were higher than most previously published figures at 0.12 d kg^{-1} for ewe muscle and 0.50 d kg^{-1} for lamb muscle. The transfer coefficient for ^{137}Cs from ewe milk to lamb muscle was 1.20 d kg^{-1} . Author-abstract.

603

AN 90008180. 90000.
AU Henrichs-H. Paretzke-H-G. Voigt-G. Berg-D.
IN GSF--Institut für Strahlenschutz, Neuherberg, Federal Republic of Germany.
TI Measurements of Cs absorption and retention in man.
SO Health-Phys. 1989 Oct. 57(4). P 571-8.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB One of the consequences of the *Chernobyl* reactor accident in 1986 was a comparatively high contamination of foodstuffs in Southern Federal Republic of Germany. In order to test radioecological models predicting the radiological consequences of such accidents, several thousand measurements were performed to determine Cs body burdens in members of the public. For the interpretation of these data and as a contribution to the improvement of the available database on the biokinetics of Cs isotopes in humans, we followed a small group of volunteers after their consumption of highly contaminated venison. Intakes, excretion rates and total body activities were measured during a period of more than 200 d. The data obtained were evaluated in terms of a compartment model to derive gastrointestinal uptakes, biological half-lives and dose conversion factors. The resulting uptake factors range from 65-90%, the half-lives of the long-term retention from 45 to 200 d. The majority of the resulting dose conversion factors lie below the values recommended by the ICRP, showing that the ICRP model is a reasonable and safe description of the Cs biokinetics in our study group, while the great variability of the results shows that it is not an accurate representation of the

individual Cs retention. Author-abstract.

604

AN 90006892. 90000.

AU Torubarov-F-S. Chinkina-O-V.

TI `Problem of clinico-psychological evaluation and prognosis of mental and physical work capacity of persons with a history of acute radiation injuries of moderate severity:.

SO Gig-Tr-Prof-Zabol. 1989. (7). P 13-6.

JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA.

PT JOURNAL-ARTICLE (ART).

AB The analysis of 4 examples of the development of various psychic states in patients having acute radiation sickness of minor degree during the rehabilitation period in 7-9 months following the disaster at the *Chernobyl* APS showed the correlation of disease outcome with a complex of psychological factors characteristic of the disaster and the disease itself, personality and occupational characteristics of those exposed before the disaster. The findings of the complex psychological study can be used for expert appraisal and forecast of health state, mental and work capacity of the patients, their professional fitness. They can be also used for the development of rehabilitation activities. Author-abstract.

605

AN 89389602. 89000.

AU Aleksandrovskii-IuA. Rumiantseva-G-M. Shchukin-B-P. Iurov-V-V.

TI `Mental disadaptation in emergency situations (accident at the *Chernobyl* nuclear power station):.

SO Zh-Nevropatol-Psikhiatr. 1989. 89(5). P 111-7.

PT JOURNAL-ARTICLE (ART).

AB Phenomenology and time course of psychic disorders in persons exposed to life-threatening emergency situations provoked by the *Chernobyl* accident have been analyzed. Three states could be identified according to differences in their psychogenic impact: acute, delayed and long-term. Psychic dysadaptation and disorders might be presented as results of a single process beginning with acute anxiety responses followed by asthenic disorders which backed the relatively steady neurotic and psychopathic states. Author-abstract.

606

AN 89389498. 89000.

AU Diehl-J-F. Frindik-O. Muller-H.

IN Zentrallaboratorium fur Isotopentechnik, Karlsruhe, Federal Republic of Germany.

TI Radioactivity in total diet before and after the *Chernobyl* reactor accident. The situation in the Federal Republic of Germany.

SO Z-Lebensm-Unters-Forsch. 1989 Jul. 189(1). P 36-8.

JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.

PT JOURNAL-ARTICLE (ART).

AB Radioactivity in total diet samples (1-day rations of adults) has

been determined in the Federal Republic of Germany since 1960. Average intake of cesium-137 was 8.9 Bq per day and per person (Bq/d.p) in 1964, 0.15 in 1985, 4.2 in 1986, 7.2 in 1987, and 2.0 in 1988. Cesium-134, not measureable in *pre-Chernobyl* fallout, averaged 2.0 Bq/d.p in 1986, 3.0 in 1987, and 0.6 in 1988. Intake of strontium-90 was in the same range as in the years preceding the *Chernobyl* accident. It is estimated that the total effective equivalent dose for adults due to ingestion of *Chernobyl-released* radionuclides, including iodine-131, will be 0.14 +/- 0.08 mSv. Author-abstract.

607

AN 89379711. 89000.
AU Yule-L. Taylor-D-M.
TI *Chernobyl* radioactivity in Turkish tea: a response `letter; comment:.
SO Health-Phys. 1989 Sep. 57(3). P 495.
JT HEALTH PHYSICS.
PT COMMENT (COM). LETTER (LET).

608

AN 89379710. 89000.
AU Moran-D.
TI Reassessment of 137Cs in soils from *Chernobyl* fallout `letter; comment:.
SO Health-Phys. 1989 Sep. 57(3). P 493-4.
JT HEALTH PHYSICS.
PT COMMENT (COM). LETTER (LET).

609

AN 89379707. 89000.
AU Jackson-D.
IN British Nuclear Fuels plc, Environmental Protection Group, Seascale, Cumbria.
TI *Chernobyl-derived* 137Cs and 134Cs in heather plants in northwest England.
SO Health-Phys. 1989 Sep. 57(3). P 485-9.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

610

AN 89368878. 89000.
AU Papastefanou-C. Manolopoulou-M. Ioannidou-A. Zahariadou-K. Stoulos-S. Charalambous-S.
IN Nuclear Physics Department, Aristotle University of Thessaloniki, Greece.
TI Time-dependent radioactive concentrations of fallout following the *Chernobyl* reactor accident.
SO Sci-Total-Environ. 1989 Aug. 84. P 283-9.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).

AB The levels of *Chernobyl-derived* ^{137}Cs , ^{134}Cs , ^{106}Ru and ^{103}Ru were measured at Thessaloniki, Greece, in air, rain, soil, grass and milk samples for more than 2 years after the accident. The data were analysed in conjunction with ^7Be (produced in the atmosphere by cosmic rays) measurements and show that significant variations were observed, particularly in the spring and in the autumn measurements. In interpreting these variations we took into consideration the tropospheric, or possibly stratospheric, fallout injections into the atmosphere due to the *Chernobyl* accident, nuclear weapons testing or other releases from nuclear reactors operating world-wide. Useful information can be derived for determining the periodicity of global circulation of the fallout radionuclides. Author-abstract.

611

AN 89364071. 89000.

AU Avetisov-G-M. Buldakov-L-A. Gordeev-K-I. Ilin-L-A.

TI `Strategy of the NCRP (National Commission on Radiation Protection) in establishing time limits on annual radiation dosages of the population following the accident at the *Chernobyl* AES. Concept of a lifetime dosage:.

SO Med-Radiol (Mosk). 1989 Aug. 34(8). P 3-11.

PT JOURNAL-ARTICLE (ART).

612

AN 89351933. 89000.

AU Del-Vecchio-M-P. Paolini-M. Corsi-C. Bauer-C.

TI `Critical aspects in determining total radioactivity of biological samples:.

SO Boll-Soc-Ital-Biol-Sper. 1989 Mar. 65(3). P 281-7.

JT BOLLETTINO - SOCIETA ITALIANA BIOLOGIA SPERIMENTALE.

PT JOURNAL-ARTICLE (ART).

AB During measurements of radioactivity in some milk samples with liquid scintillation counter (about one year after the nuclear accident of *Chernobyl*) we have observed an increase of the values of scintillation fluid with the passing of time. Although this enhancement is absolutely small (about 2 c.p.m. in 500 min), it is very important for an exact measurement of samples at low counting, as those tested. Our protocol of measure provides for insertion of alternate blanks and samples in the automatic sample-holders of liquid scintillation counter. The values of measurement of samples are taken during the increase phase subtracting the value of blank interpolated on the increasing straight line from c.p.m. of sample. Finally, we report the collected values of the whole radioactivity in some milk samples: at least 5-6 nCi/L contrary to about 1 nCi/L of ^{137}Cs reported by USL. In our opinion it is important to consider the whole radioactivity as measure of the overall biological danger of radioactive samples. In fact, this measurement takes into account also biologically very dangerous radionuclides as ^3H , ^{14}C , ^{90}Sr . Author-abstract.

613

AN 89346732. 89000.
AU Papastefanou-C. Manolopoulou-M.
IN Nuclear Physics Department, Aristotle University of Thessaloniki, Greece.
TI The radioactivity of coloured rain in Thessaloniki, Greece.
SO Sci-Total-Environ. 1989 May 15. 80(2-3). P 225-7.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
AB The radioactivity of coloured rain precipitated over Thessaloniki, Greece, on 4-5 April 1988 was determined. The long-lived fission product radionuclides such as ¹³⁷Cs, ¹³⁴Cs, ¹⁴⁴Ce, ¹⁰⁶Ru and ¹²⁵Sb were identified in dust originating from the Sahara desert which was precipitated with the rain to produce coloured rain. Caesium-137 concentrations reached 1000 Bq kg⁻¹, resulting in a deposition of 3.03 Bq m⁻², which is four orders of magnitude lower than measured on 5-6 May 1986 after the *Chernobyl* reactor accident. Author-abstract.

614

AN 89343535. 89000.
AU Tsyb-A-F. Dedenkov-A-N. Ivanov-V-K. Stepanenko-V-F. Pozhidaev-V-V.
TI `The development of an all-Union registry of persons exposed to radiation resulting from the accident at the *Chernobyl* atomic power station:.
SO Med-Radiol (Mosk). 1989 Jul. 34(7). P 3-6.
PT JOURNAL-ARTICLE (ART).

615

AN 89339938. 89000.
AU Crowley-M-J. Reville-W-J.
TI Investigation of the possible effect of the *Chernobyl* accident on Irish mortality rates.
SO Ir-J-Med-Sci. 1989 May. 158(5). P 114-6.
JT IRISH JOURNAL OF MEDICAL SCIENCE.
PT JOURNAL-ARTICLE (ART).
AB RADIOACTIVE fallout from the *Chernobyl* accident reached Ireland in May 1986 and caused serious concern with regard to its possible effects on health. Reports of a large scale American study claim an almost immediate effect of *Chernobyl* fallout in terms of increased mortality rates. A study of Irish mortality rates reported a substantial increase in numbers of deaths during the three months immediately *post-Chernobyl.* The present study investigates whether there is a statistically significant basis for the reported increase in mortality in Ireland. No discernible evidence was found for increased mortality rates in Ireland during 1986, following the *Chernobyl* accident. The initial report of increased mortality rates was based on provisional mortality registration statistics and not on actual day by day data. Author-abstract.

616

AN 89330568. 89000.
AU Rich-V.
TI *Chernobyl* fallout: continuing plans for evacuation `news:.
SO Nature. 1989 Aug 10. 340(6233). P 415.
JT NATURE.
PT NEWS (NEW).

617

AN 89323631. 89000.
AU Joffe-M.
TI The accident at *Chernobyl* and outcome of pregnancy in Finland
`letter; comment:.
SO BMJ. 1989 May 20. 298(6684). P 1384.
JT BMJ.
PT COMMENT (COM). LETTER (LET).

618

AN 89319251. 89000.
AU Bunzl-K. Kracke-W.
IN Gesellschaft fur Strahlen- und Umweltforschung Munchen, Institut fur
Strahlenschutz, Neuherberg, Bundesrepublik Deutschland.
TI `The transfer of 137Cs and 90Sr into flour, bran and straw from
wheat, rye, barley and oats in the years 1982, 1986 (reactor accident
in *Chernobyl)* and 1987 in field studies:.
SO Z-Lebensm-Unters-Forsch. 1989 May. 188(5). P 439-44.
JT ZEITSCHRIFT FUR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.
PT JOURNAL-ARTICLE (ART).
AB The specific activity of 137Cs and 90Sr from the global fallout, as
well as from the fallout after the reactor accident at *Chernobyl,* was
determined in flour, bran and straw from wheat, rye, barley and oats
as well in the corresponding soils (Cambisol). The results show that
the activity of 137Cs, but not of 90Sr, in the plant material was
considerably higher in 1986, and still to some extent in 1987,
compared to 1982. For 137Cs an 90Sr, as well as for most cereal
samples, the activity in the bran and straw was significantly higher
than in the flour. Determination of stable potassium and calcium in
all samples revealed that this enrichment is, to a large extent, the
result of a comparable enrichment of these elements in brans and
straw. The plant/soil concentration ratios, averaged over all
cereals, were for 137Cs (1982 and 1987): flour 0.026 +/- 0.018; bran
0.079 +/- 0.042; straw 0.055 +/- 0.027. For 90Sr (1982, 1986, and
1987): flour 0.19 +/- 0.095; bran 0.70 +/- 0.23; straw 2.35 +/- 0.82.
Author-abstract.

619

AN 89316614. 89000.
AU Ferretti-P-P. Restori-E. Algeri-T-M. DallAra-P. Borasi-G.
IN Servizio di Fisica Sanitaria, Arcispedale S. Maria Nuova, USSL 9,
Reggio Emilia.

TI `Radiation exposure of the embryo and the fetus: real risks or
unjustified fears?`.
SO Radiol-Med (Torino). 1989 May. 77(5). P 544-8.
JT RADIOLOGIA MEDICA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB The authors discuss the problem of radiation damage to the individual
developing in utero, and summarize the information available in the
literature on the subject. Additional risks induced by ionizing
radiations are classified with reference to gestational age and dose
absorbed by the fetus. Such risks concern the possibility of mental
retardation from the 8th to the 15th gestational week, and of
developing a malignant disease from the 3rd to the 15th gestational
week. We report the dose values received by the fetus as a result of
both radiodiagnostic examinations and the *Chernobyl* nuclear accident:
the doses were generally very low, which leads us to the conclusion
that additional risks are of the same order of magnitude as the
fluctuations in the natural congenital malformations. Thus, prenatal
irradiation for diagnostic examinations does not generally represent
a reason to recommend therapeutic abortion. However, it is always
important to carry out a careful evaluation of the dose absorbed by
the fetus and to correctly inform the mother about eventual
radiation-induced risks. Author-abstract. 49 Refs.

620

AN 89314144. 89000.
AU Rich-V.
TI *Chernobyl* fallout. Byelorussia collects dose `news`.
SO Nature. 1989 Jul 27. 340(6231). P 255.
JT NATURE.
PT NEWS (NEW).

621

AN 89314084. 89000.
AU Cassel-C-K. Leaning-J.
TI *Chernobyl*: learning from experience `editorial; comment: `see
comments`.
SO N-Engl-J-Med. 1989 Jul 27. 321(4). P 254-5.
JT NEW ENGLAND JOURNAL OF MEDICINE.
PT COMMENT (COM). EDITORIAL (EDI).

622

AN 89314076. 89000.
AU Baranov-A. Gale-R-P. Guskova-A. Piatkin-E. Selidovkin-G.
Muravyova-L. Champlin-R-E. Danilova-N. Yevseeva-L. Petrosyan-L.
IN Institute of Biophysics of the Ministry of Health and Clinical
Hospital, Moscow, U.S.S.R.
TI Bone marrow transplantation after the *Chernobyl* nuclear accident
`published erratum appears in N Engl J Med 1990 Jan 25;322(4):280:
`see comments`.
SO N-Engl-J-Med. 1989 Jul 27. 321(4). P 205-12.

JT NEW ENGLAND JOURNAL OF MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB On April 26, 1986, an accident at the *Chernobyl* nuclear power station in the Soviet Union exposed about 200 people to large doses of total-body radiation. Thirteen persons exposed to estimated total-body doses of 5.6 to 13.4 Gy received bone marrow transplants. Two transplant recipients, who received estimated doses of radiation of 5.6 and 8.7 Gy, are alive more than three years after the accident. The others died of various causes, including burns (the cause of death in five), interstitial pneumonitis (three), graft-versus-host disease (two), and acute renal failure and adult respiratory distress syndrome (one). There was hematopoietic (granulocytic) recovery in nine transplant recipients who could be evaluated, six of whom had transient partial engraftment before the recovery of their own marrow. Graft-versus-host disease was diagnosed clinically in four persons and suspected in two others. Although the recovery of endogenous hematopoiesis may occur after exposure to radiation doses of 5.6 to 13.4 Gy, we do not know whether it is more likely after the transient engraftment of transplanted stem cells. Because large doses of radiation affect multiple systems, bone marrow recovery does not necessarily ensure survival. Furthermore, the risk of graft-versus-host disease must be considered when the benefits of this treatment are being weighed. Author-abstract.

623

AN 89308011. 89000.

AU Capra-E. Drigo-A. Menin-A.

IN Servizio Fisica Sanitaria, USL 11 Pordenonese, Italy.

TI Cesium-137 urinary excretion by northeastern (Pordenone) Italian people following the *Chernobyl* nuclear accident `see comments:.

SO Health-Phys. 1989 Jul. 57(1). P 99-106.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB To estimate the radiological consequences in humans due to the *Chernobyl* nuclear accident (5 May 1986), we have determined both the ¹³⁷Cs concentration in food and the ¹³⁷Cs daily urinary excretion on 198 residents of the Pordenone area. The resulting experimental data have been compared with those estimated from the International Commission on Radiological Protection Publication 10A model (ICRP 1971) using a suitable dietary intake, and they were found to be in reasonable agreement. Author-abstract.

624

AN 89306444. 89000.

AU Schlotter-C-M. Vongehr-S. Rolke-U.

IN Frauenklinik am St.-Elisabeth-Hospital Ibbenburen.

TI `Exposure of the fetoplacental unit, breast milk and cow's milk to radionuclides 1 year after *Chernobyl*.*

SO Geburtshilfe-Frauenheilkd. 1989 Jun. 49(6). P 557-60.

JT GEBURTSHILFE UND FRAUENHEILKUNDE.

PT JOURNAL-ARTICLE (ART).

AB Placenta, umbilical cord with membranes, amniotic fluid, foetal blood (from the umbilical vein), maternal urine and breast milk were examined for the non-natural radioisotopes ¹³¹iodine, ¹⁰³ ruthenium, ¹³⁴caesium, ¹³⁷caesium originating mainly from the nuclear power plant accident in *Chernobyl* compared with ⁴⁰potassium existent in the natural environment. Apart from amniotic fluid, all samples contained considerable traces of caesium-radioisotopes. ¹³¹iodine and ¹⁰³ruthenium could not be identified at the time of our survey due to their short half-life. The radioisotope load of placenta was found to be increased tenfold compared to studies before the *Chernobyl* catastrophe. Breast milk radioisotope load was found to be lower than that in cow's milk in a corresponding geographical region in the same period of time. Author-abstract.

625

AN 89295010. 89000.

AU Piatkin-E-K. Nugis-VIu. Chirkov-A-A.

TI `Estimation of absorbed dose based on the results of cytogenetic studies of lymphocyte cultures from subjects exposed in the accident at the *Chernobyl* Atomic Power Station:.

SO Med-Radiol (Mosk). 1989 Jun. 34(6). P 52-7.

PT JOURNAL-ARTICLE (ART).

AB Cytogenetic analysis of peripheral blood and bone marrow lymphocyte cultures was performed in 158 persons who had suffered in the accident at the *Chernobyl* Atomic Power Station. According to these data, in spite of severe local injuries in some cases, hemopoietic tissue of a majority of the patients was exposed to relatively homogeneous irradiation. Doses, estimated by the frequency of dicentrics (per 100 cells), in 7 patients varied within the ranges 10.1-13.7 Gy, in 12--6.1-9.5 Gy, in 16--4-5.8 Gy, in 33--2-3.9 Gy, in 19--1-1.9 Gy, in 42--0.1-0.9 Gy. Dicentrics in 29 patients were undetectable. Author-abstract.

626

AN 89294988. 89000.

AU Ende-N. Rameshwar-P. Ende-M.

IN Department of Pathology, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark 07103.

TI Fetal cord blood's potential for bone marrow transplantation.

SO Life-Sci. 1989. 44(25). P 1987-90.

JT LIFE SCIENCES.

PT JOURNAL-ARTICLE (ART).

AB Approximately 18 years ago, the authors were able to produce an apparently successful bone marrow transplant by using umbilical cord blood. In view of the *Chernobyl* disaster and the subsequent problems of treatment with marrow transplantation, this study undertook to explore further the potential use of umbilical cord blood as a source of marrow cells. Specimens of umbilical cord blood were collected

from 13 routine obstetrical deliveries. All specimens grew erythroid and granulocytic-monocytic colonies. The formation of these various hematopoietic colonies from umbilical cord blood was at least equivalent to bone marrow, and in some instances over 5 times more effective. There appeared to be a statistically significant correlation between the numbers of colony-forming units (CFU-E) and the male infants. The weight of the infants also showed a statistically significant correlation with the burst forming units, erythroid (BFU-E) and the granulocytic-monocytic colony (CFU-GM). The BFU-E also appeared to be greater in number when the time between collection and plating was shorter. Author-abstract.

627

AN 89290828. 89000.

AU Czeizel-A.

IN Department of Human Genetics and Teratology, National Institute of Hygiene, Budapest, Hungary.

TI Hungarian surveillance of germinal mutations. Lack of detectable increase in indicator conditions caused by germinal mutations following the *Chernobyl* accident.

SO Hum-Genet. 1989 Jul. 82(4). P 359-66.

JT HUMAN GENETICS.

PT JOURNAL-ARTICLE (ART).

AB The Hungarian surveillance of germinal mutations is based on three indicator conditions seen in offspring, i.e., 15 sentinel anomalies, Down syndrome and component anomaly pairs of unidentified multiple congenital anomalies. It is an "opportunistic program," because the necessary data are available from the Hungarian Congenital Malformation Registry. This system is described and the criteria of a good registry are summarized. The analysis of indicator conditions caused by germinal mutations did not reveal any measurable mutagenic effects in Hungary following the accident at the *Chernobyl* nuclear power plant. The pros and cons of germinal mutation surveillance are discussed. Author-abstract.

628

AN 89287691. 89000.

AU Jones-B-E.

TI Managing a radioactive fall-out: the Swedish experience after *Chernobyl*.

SO Br-Vet-J. 1989 May-Jun. 145(3). P 220-5.

JT BRITISH VETERINARY JOURNAL.

PT JOURNAL-ARTICLE (ART).

629

AN 89287690. 89000.

AU Howard-B-J. Beresford-N-A.

TI *Chernobyl* radiocaesium in an upland sheep farm ecosystem.

SO Br-Vet-J. 1989 May-Jun. 145(3). P 212-9.

JT BRITISH VETERINARY JOURNAL.

PT JOURNAL-ARTICLE (ART).

AB Following the deposition of radiocaesium from the *Chernobyl* accident the movement and slaughter of sheep in upland areas of west Cumbria, Scotland and Wales was restricted. Studies on the radioecology of Cs-137 and Cs-134 have been conducted at a farm within the affected area of west Cumbria since July 1986. The radiocaesium activity of upland sheep was found to decline when they were brought on to the farms' enclosed pastures and rise when they were returned to the open fell, where the radiocaesium content of vegetation has remained higher than on the pastures. The Cs-137 activity concentration of mixed grassland vegetation samples from the fell has declined over the study period, whereas the Cs-137 activity of ewes whilst grazing on the fell was higher in summer of 1987 than in autumn 1986. A number of factors which may have contributed to this discrepancy were investigated and are discussed. It is suggested that husbandry changes would be effective in reducing the number of lambs leaving the restricted area with radiocaesium activities over the limit (1000 Bq/kg fresh weight Cs-134 + Cs-137) set by the United Kingdom authorities. Author-abstract.

630

AN 89287689. 89000.

AU Sansom-B-F.

TI An assessment of the risks to the health of grazing animals from the radioactive contamination of pastures.

SO Br-Vet-J. 1989 May-Jun. 145(3). P 206-11.

JT BRITISH VETERINARY JOURNAL.

PT JOURNAL-ARTICLE (ART).

AB As a result of the *Chernobyl* accident sheep and cattle in Wales, Cumbria and Scotland became contaminated with radionuclides of caesium and iodine. In the worst case, the maximum levels of contamination were of the order of 4000 Bq/kg of caesium-137 and 2000 Bq/kg of caesium-134 in muscle and 2,000,000 Bq/kg of iodine-131 in the thyroid gland. Calculations show that the radiation dose rates to the animals from these burdens of the radionuclides of caesium would have been approximately one thousandth of the dose rate needed to cause clinical signs of damage; in the case of iodine-131 approximately 10,000 times higher levels of the nuclide would have been required to cause clinically perceptible damage to the thyroid gland. In any foreseeable nuclear accident severe problems of human health would arise before any detrimental effects on livestock could be detected. Author-abstract.

631

AN 89284607. 89000.

AU Szepesi-T. Fliedner-T-M.

IN Universitätsklinik für Strahlentherapie und Strahlenbiologie, Wien.

TI `Reversible and irreversible damage to hematopoiesis following unexpected whole body irradiation: markers in peripheral blood:.

SO Wien-Klin-Wochenschr. 1989 Apr 28. 101(9). P 309-14.

JT WIENER KLINISCHE WOCHENSCHRIFT.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

AB During the past decade worldwide experience concerning radiation accidents demonstrated that the medical diagnosis and therapy of radiation victims has to be reconsidered. This paper describes and analyzes the clinical relevance of one of the most simple diagnostic methods, namely daily monitoring of the characteristic blood cell changes. On the basis of these methods the physician is in the position to decide at an early stage-independently of the physical dose-whether reversible or irreversible damage of the hemopoiesis is present. This is of great importance because the expected clinical development and, thus, the therapy and prognosis are different. The different behaviour of the blood cells depends on their life span, cell kinetics, radiation sensitivity and pathophysiology. Reversible damage (category I-IV) can be recognized at the latest on the 5th-6th day after radiation exposure and, according to the degree, may require supportive therapy. Irreversible damage which can probably be repaired by stem cell transfusion (category V) can also be determined on the 5th to the 6th day after radiation exposure. Irreversible damage without any chance of survival (category VI) can already be diagnosed 24 hours after the radiation event. Reversible and irreversible damage to hemopoiesis with the typical blood cell changes is presented with reference to some patients exposed to ionizing radiation in the Marshall Islands 1954, in Oak Ridge 1958, in *Chernobyl* 1986, in Los Alamos II 1946 just as III 1958, and in Wood River Junction 1964. Author-abstract. 18 Refs.

632

AN 89274457. 89000.

AU Harjulehto-T. Aro-T. Rita-H. Rytomaa-T. Saxen-L.

IN Department of Pathology, University of Helsinki, Finland.

TI The accident at *Chernobyl* and outcome of pregnancy in Finland `see comments:.

SO BMJ. 1989 Apr 15. 298(6679). P 995-7.

JT BMJ.

PT JOURNAL-ARTICLE (ART).

AB OBJECTIVE--To evaluate the outcome of pregnancy in Finnish women after the accident at the *Chernobyl* nuclear power plant on 26 April 1986. DESIGN--Geographic and temporal cohort study.

SETTING--Finland divided into three zones according to amount of radioactive fallout. SUBJECTS--All children who were exposed to radiation during their fetal development. Children born before any effects of the accident could be postulated--that is, between 1 January 1984 and 30 June 1986--served as controls.

INTERVENTIONS--Children were divided into three temporal groups: controls, children who were expected to be born in August to December 1986, and children who were expected to be born in February to December 1987. They were also divided, separately, into three groups according to the three geographic zones. END POINT--Incidence of congenital malformations, preterm births, and perinatal deaths.

MEASUREMENTS AND MAIN RESULTS--There were no significant differences in the incidence of malformations or perinatal deaths among the three temporal and three geographic groups. A significant increase in preterm births occurred among children who were exposed to radiation during the first trimester whose mothers lived in zones 2 and 3, where the external dose rate and estimated surface activity of caesium-137 were highest. CONCLUSIONS--The results suggest that the amount of radioactive fallout that Finnish people were exposed to after the accident at *Chernobyl* was not high enough to cause fetal damage in children born at term. The higher incidence of premature births among malformed children in the most heavily polluted areas, however, remains unexplained. Author-abstract.

633

AN 89269286. 89000.

AU Torubarov-F-S. Blagoveshchenskaia-V-V. Chesalin-P-V. Nikolaev-M-K.

TI `Status of the nervous system in victims of the accident at the *Chernobyl* atomic power plant:.

SO Zh-Nevropatol-Psikhiatr. 1989. 89(2). P 48-52.

PT JOURNAL-ARTICLE (ART).

AB Under neurological investigation were 113 patients with different degrees of severity of acute radiation disease (ARD). The patients were relatively evenly irradiated by beta- and gamma-rays as a result of CPP accident. The onset time and markedness of the signs of primary reaction were related to ARD severity. Early appearance of the signs of disturbances in the central nervous system functional state suggested a stronger affliction, malignant course and fatal outcome of the disease. In ARD patients with IV-th and III-rd degree of severity the syndromes observed were these: acute radiation encephalopathy immediately caused by the ionizing irradiation of the CNS, and a secondary radiation-toxic encephalopathy. The hemorrhagic lesioning of CNS and cerebral hemispheres were noted in terminal stages. In rehabilitation phases, neurasthenic and neurovascular syndromes appeared irrespective of the ARD severity. Author-abstract.

634

AN 89252679. 89000.

AU Baranov-A-E. Geil-R-P. Guskova-A-K. Piatkin-E-K. Chemplin-R.

TI `Transplantation of the bone marrow after total body irradiation of the victims after the accident at the *Chernobyl* atomic power plant:.

SO Gematol-Transfuziol. 1989 Mar. 34(3). P 3-16.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB Bone marrow transplantation was carried out in 13 patients. Seven patients (the doses of the total gamma-radiation were from 6.6 to 11.9 Gy; 4 identical, 2 "haplo + I", 1 haploidentical to BMT) died from radiation-induced skin injuries (beta-burns) incompatible with further life, from intestinal and pulmonary lesions from days 17 to 25 after radiation (days +2-+9 after BMT). Four patients (the doses

were from 4.4 to 10.2 Gy; 2 identical, 1 "haplo + I", 1 haploidentical to BMT) died from acute secondary disease (ASD) and herpes virus infections within 34 (+27) to 91 (+79) days. Two patients (the doses constituted 5.6 and 8.7 Gy; haploidentical to BMT) are alive. They demonstrated incomplete myelopoietic chimera (up to +32-+36 days), non-grave ASD (from day +13 to day +57), the onset of the own myelopoiesis on days 27-28 and its final recovery by the termination of the 3d-4th month following radiation. Author-abstract.

635

AN 89252676. 89000.

AU Konchalovskii-M-V. Shishkova-T-V. Chotii-V-G. Baranov-A-E.

TI `Use of lithium carbonate as a leukocyte stimulant in acute radiation sickness in humans:.

SO Gematol-Transfuziol. 1989 Mar. 34(3). P 16-23.

JT GEMATOLOGIIA I TRANSFUZIOLOGIIA.

PT JOURNAL-ARTICLE (ART).

AB A total of 50 patients, who had suffered from acute radiation sickness (I-III degree of severity) as a result of the accident at the *Chernobyl* Nuclear Power Plant, were followed up for hematological changes. The absorbed dose of relatively even gamma-irradiation assessed by karyometry fluctuated from 0.5 to 5.7 Gy. In 17 of the patients the influence of lithium carbonate on the course of radiation neutropenia was evaluated. No appreciable effect of the agent administration in a dose of 900 mg/patient/day was recorder from 9 to 42 day after irradiation. The authors have also considered the correlations of the values of irradiation doses calculated by varying methods of biological dosimetry. Author-abstract.

636

AN 89242571. 89000.

AU Guskova-A-K. Baranov-A-E. Barabanova-A-V. Moiseev-A-A. Piatkin-E-K.

TI `Diagnosis, clinical picture and therapy of acute radiation disease in victims of the accident at the *Chernobyl* nuclear power station. I. Conditions of irradiation, dose levels, bone marrow syndrome and its therapy:.

SO Ter-Ark. 1989. 61(1). P 95-103.

JT TERAPEVTICHESKII ARKHIV.

PT JOURNAL-ARTICLE (ART).

AB A follow-up of 115 patients with acute radiation disease resulting from external gamma-beta-radiation confirmed a high value of the previously proposed principles of predicting a degree of severity on the basis of the clinical manifestations of a primary reaction of disease and some syndromes using methods of hematological and cytogenetic analysis. Early isolation of patients with ARD of II-IV degree, selective intestinal decontamination, administration of antibiotics of a broad spectrum of action, antimycotic and antiviral drugs, and gamma-globulin can practically eliminate the risk of

development of fatal infectious complications in medullary and transient types of radiation disease. The efficient use of thrombomass transfusion completely prevents development of the thrombocytopenic hemorrhagic syndrome. Experience in bone marrow transplantation requires a review of therapeutic indications.
Author-abstract.

637

AN 89242089. 89000.

AU Bunzl-K. Schimmack-W. Kreutzer-K. Schierl-R.

IN Institut für Strahlenschutz, Gesellschaft für Strahlen-und Umweltforschung, Neuherberg, Federal Republic of Germany.

TI Interception and retention of *Chernobyl-derived* ¹³⁴Cs, ¹³⁷Cs and ¹⁰⁶Ru in a spruce stand.

SO Sci-Total-Environ. 1989 Jan. 78. P 77-87.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB The time dependence of the specific activity of *Chernobyl-derived* ¹³⁴Cs, ¹³⁷Cs and ¹⁰⁶Ru was determined in vegetation and soil samples from an old spruce stand within a period of 600 days after the beginning of the radioactive fallout. The results show that 70% of the total activity of radiocesium and 60% of radioruthenium deposited in the spruce stand were retained initially in the canopy. They were removed from the needles and twigs as a result of weathering (rain, wind, litter fall) and transferred to the forest floor, but only rather slowly (half-lives in the canopy: radiocesium, 90 days for the period 0-130 days, 230 days for the period 130-600 days; radioruthenium, 95 days for the period 0-200 days). The transfer of radiocesium and ruthenium to the forest floor by litter-fall was small when compared with that of weathering by rain or wind (radiocesium 7%, radioruthenium 8%, with respect to the total activity deposited in the canopy). The total deposition of radiocesium and ruthenium in the spruce stand was higher by 20 and 24%, respectively, than that observed in nearby grassland. The deposition velocity of radiocesium in the spruce stand was estimated at 5.5 mm s⁻¹, higher by a factor of 10 than the figure for grassland. Similar values were found for radioruthenium.
Author-abstract.

638

AN 89240861. 89000.

AU Menghini-A. Borio-R. Chiochini-S. Scampoli-P.

IN Department of Plant Biology, University of Perugia.

TI Radioactivity from ¹³⁷Cs in plant drugs and their preparations after *Chernobyl*.*

SO Pharmacol-Res-Commun. 1988 Dec. 20 Suppl 5. P 155-9.

JT PHARMACOLOGICAL RESEARCH COMMUNICATIONS.

PT JOURNAL-ARTICLE (ART).

AB The ¹³⁷Cs content was determined in 406 plant drug samples harvested in 1986 and 1987 after the *Chernobyl* accident and in their

preparations. Very high values were found in drugs produced in Eastern Europe and in Italy. The decoctions contain about 80% of ¹³⁷Cs present in the drugs. Author-abstract.

639

AN 89239671. 89000.
AU Genchi-C. Manfredi-M-T. Madonna-M.
IN Istituto di Patologia Generale Veterinaria, Universita di Milano.
TI Morphological variations in nematode parasites after a radioactive fall out: preliminary results.
SO Parassitologia. 1987 Apr. 29(1). P 75-8.
JT PARASSITOLOGIA.
PT JOURNAL-ARTICLE (ART).
AB Preliminary results from a survey of abomasal parasites of wild ruminant *Rupicapra rupicapra* are reported. The study was carried out after the fall out of radioactive contamination from the nuclear accident at *Chernobyl* (May 1986) and showed the high prevalence of teratologic forms in representatives of *Ostertaginae* (3.1% of the entire population of male worms). Author-abstract.

640

AN 89238429. 89000.
AU Stephan-G. Oestreicher-U.
IN Institute for Radiation Hygiene of The Federal Health Office, Neuherberg, F.R.G.
TI An increased frequency of structural chromosome aberrations in persons present in the vicinity of *Chernobyl* during and after the reactor accident. Is this effect caused by radiation exposure?
SO Mutat-Res. 1989 May. 223(1). P 7-12.
JT MUTATION RESEARCH.
PT JOURNAL-ARTICLE (ART).
AB About a week after the reactor accident in *Chernobyl,* a number of German citizens returned to the Federal Republic of Germany from different places of residence in the U.S.S.R. Chromosome analyses of these individuals show a surprisingly significant increase in dicentric chromosomes in comparison to the laboratory control. Acentrics are nearly twice as frequent as dicentrics. Centric rings are also in evidence. Chromatid breaks do not significantly differ from the control with the exception of 1 place of residence. The frequency of aberrations is too high to be induced by absorbed doses calculated physically or by modelling techniques. So far, no explanation is available for the discrepancy-a factor of about 100-between calculated absorbed doses and the measured biological effect. Author-abstract.

641

AN 89235764. 89000.
AU Holm-L-E. Lundell-G.
TI Swedish thyroid cancer risk from *Chernobyl?* `letter:.
SO J-Nucl-Med. 1989 May. 30(5). P 721-2.

JT JOURNAL OF NUCLEAR MEDICINE.
PT LETTER (LET).

642

AN 89234036. 89000.
AU Cunningham-W-C. Stroube-W-B Jr. Baratta-E-J.
IN Food and Drug Administration, Division of Contaminants Chemistry,
Washington, DC 20204.
TI Radionuclides in domestic and imported foods in the United States,
1983-1986.
SO J-Assoc-Off-Anal-Chem. 1989 Jan-Feb. 72(1). P 15-8.
JT JOURNAL - ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS.
PT JOURNAL-ARTICLE (ART).
AB Findings in the Food and Drug Administration's Radionuclides in Foods
program are summarized for samples collected between October 1, 1982,
and September 30, 1986. All radionuclide findings for Total Diet and
reactor samples were either in Action Range I or low in Range II of
the surveillance and control recommendations given by the Federal
Radiation Council. The only long-range trend noted was a
continuation of the general decline in dietary intake of ^{90}Sr since
1961. Imported food samples were analyzed for contamination after
the *Chernobyl* nuclear accident. The findings for imported foods
indicate that the surveillance efforts successfully targeted
contaminated foods, and that contamination levels were below levels
of concern for all but one oregano and 3 cheese samples.
Author-abstract.

643

AN 89233780. 89000.
AU Yesin-T. Cakir-N.
IN Mechanical Engineering Department, Middle East Technical University,
Ankara, Turkey.
TI Caesium-137 and caesium-134 levels in soil in a tea plantation in
Turkey after the *Chernobyl* accident.
SO Int-J-Rad-Appl-Instrum `A:. 1989. 40(3). P 209-11.
JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION.
PART A, APPLIED RADIATION AND ISOTOPES.
PT JOURNAL-ARTICLE (ART).
AB Gamma-ray scintillation spectrometry has been used to measure the
 ^{137}Cs and ^{134}Cs levels and depth distributions in soil of a tea
plantation in the Eastern Black Sea region in Turkey. Soil samples
were collected in November 1987. The depth distribution was found to
be exponential with $\alpha = 0.16 \text{ cm}^{-1}$ and the exposure rate arising
therefrom is calculated as $17.46 \mu\text{R/h}$ over ground surface.
Author-abstract.

644

AN 89220511. 89000.
AU Caglayan-S. Kayhan-B. Montesoglu-S. Aksit-S.
IN Social Security Teaching Hospital, Izmir, Turkey.

TI Changing incidence of neural tube defects in Aegean Turkey.

SO Paediatr-Perinat-Epidemiol. 1989 Jan. 3(1). P 62-5.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The incidence of neural tube defects was monitored among all live- and still-births delivered between June 1986 and July 1988. In all there were 19,115 total births. The incidence of neural tube defects (NTD) was 1.9 per 1000 among those whose conception time was prior to May 1986. However, in conceptions occurring in May, June and July 1986, the NTD rate increased to a level of 8.9 per 1000, subsequently gradually declining to previous levels within 9 months. This dramatic change in incidence, which parallels a previous finding from Turkey, suggests that this finding may be associated with the *Chernobyl* disaster of May 1986. Author-abstract.

645

AN 89220504. 89000.

AU Akar-N. Ata-Y. Aytekin-A-F.

TI Neural tube defects and *Chernobyl*? *letter:.

SO Paediatr-Perinat-Epidemiol. 1989 Jan. 3(1). P 102-3.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT LETTER (LET).

646

AN 89197646. 89000.

AU Jones-B-E.

IN Department of Clinical Chemistry, College of Veterinary Medicine, Swedish University of Agricultural Sciences, Uppsala.

TI Effects of the *Chernobyl* accident on animal husbandry and production, from a Swedish perspective.

SO J-Am-Vet-Med-Assoc. 1989 Apr 1. 194(7). P 900-2.

JT JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION.

PT JOURNAL-ARTICLE (ART).

AB About 20% of the Swedish land area was considerably contaminated by radionuclides released by the nuclear accident at *Chernobyl,* Ukraine, in April 1986. However, less than 10% of the arable land was contaminated. The heavy contamination was closely correlated with the amount of rain received during the first days of May 1986. Immediate restrictions on grazing limited the early uptake of contaminants in animal products. Changes in management of animals, especially sheep, goats, and reindeer in the contaminated areas have effectively reduced the transfer of radionuclides to human beings. One important factor was the possibility of obtaining uncontaminated feeds from unaffected parts of the country. The direct costs during the first 2 years after the accident were approximately +10 million for analyses and +90 million for compensation to farmers for condemned products (milk, mutton, and reindeer meat) and reimbursement for purchase of uncontaminated feeds from other parts of the country. Author-abstract.

647

AN 89196839. 89000.

AU Dadak-C. Kosian-K. Rauscher-G. Hefner-A. Steger-F.

IN II. Universitäts-Frauenklinik Wien.

TI `Exposure to radioactivity in the perinatal period following the reactor accident in *Chernobyl*.*

SO Geburtshilfe-Frauenheilkd. 1989 Feb. 49(2). P 169-71.

JT GEBURTSHILFE UND FRAUENHEILKUNDE.

PT JOURNAL-ARTICLE (ART).

AB After the *Chernobyl* nuclear accident on 26 April 1986 Europe experienced increased radioactive radiation by contamination of the atmospheric aerosol and the soil. Foods emanating radioactive radiation were ingested by the population to an increased extent via the food chain. This proportion of radioactive radiation accounted for about 80% of the total irradiation exposure and prompted us to examine mother's milk, amniotic fluid and placenta of newborn in respect of their concentrations of radionuclides I-131, Cs-134 and Cs-137. Due to the short half-life of I-131 an increased concentration of this substance was seen only during the first eight weeks after the nuclear accident. On the other hand, however, there was a clear increase in Cs-134 and Cs-137 from this time onward, the highest concentration of these two nuclides being measured only after one year after the accident. Despite the enhanced exposure to radioactivity of mother's milk and amniotic fluid, the guideline values laid down by Federal German legislation were not exceeded. Author-abstract.

648

AN 89186848. 89000.

AU Ambach-W. Rehwald-W. Blumthaler-M. Eisner-H. Brunner-P.

IN Institute for Medical Physics, University of Innsbruck, Austria.

TI Displacement of *Chernobyl* fallout in snow layers of temperate Alpine glaciers.

SO Sci-Total-Environ. 1988 Oct 15. 76(2-3). P 101-7.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

AB Measurements of the gross-beta-activity and a gamma-spectrum analysis of radioactive fallout from *Chernobyl* distributed in vertical snow profiles on an Alpine glacier were carried out. Samples were collected in summer 1986 and in summer 1987. A displacement of isotopes to depths of approximately 6 m was observed. The mean activity per unit area amounts to 10.4 and 6.6 kBq m⁻² for samples from 1986 and 1987, respectively, both values corrected to 1 May 1987. Isotopes with half-lives shorter than 110m Ag (250 days) could no longer be detected in 1987. Author-abstract.

649

AN 89183907. 89000.

TI Preliminary evaluation of the impact of the *Chernobyl* radiological contamination on the frequency of central nervous system

malformations in 18 regions of Europe. The EUROCAT Working Group.

SO Paediatr-Perinat-Epidemiol. 1988 Jul. 2(3). P 253-64.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB The teratological impact of radiological contamination from the *Chernobyl* accident was evaluated in relation to central nervous system and eye defects in 18 regional registries in nine countries of Western Europe. Six classes of anomaly were analysed: neural tube defects, arhinencephaly, microcephaly and brain reduction, hydrocephaly, anophthalmos and microphthalmos, and congenital cataract. Conceptions up to 31 August 1986 were grouped into two exposure cohorts. In cohort A the sensitive period of fetal development to radiation fell wholly or partly between 1 May and 30 June 1986. Cohort B included all cases exposed during their sensitive period on or after 1 May 1986. Observed frequencies of the six classes of anomaly in the exposed cohorts were compared with expected frequencies calculated from baseline rates for the period 1980-1985. The only significant increase was neural tube defects in Odense, Denmark (four cases observed in cohort A where 0.9 were expected). The results of the study do not show a general increase in the frequency of malformations in the countries of Western Europe. The evidence presented indicates that, in the regions studied, termination of pregnancies or invasive prenatal diagnostic examinations were not justified for women exposed during pregnancy. Author-abstract.

650

AN 89183886. 89000.

AU Akar-N. Cavdar-A-O. Arcasoy-A.

IN Ankara University, Department of Haematology and Oncology, Turkey.

TI High incidence of neural tube defects in Bursa, Turkey.

SO Paediatr-Perinat-Epidemiol. 1988 Jan. 2(1). P 89-92.

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

AB A radiological survey of 1204 members of the population of Bursa revealed a high prevalence of spina bifida occulta (16.3%). Hospital deliveries in the area also showed a high incidence of anencephalus and spina bifida aperta (5.8 per 1000 total births) in the years 1983 to 1986. In the first 6 months of 1987, however, there was an increase in incidence to 20 per 1000 births (P less than 0.01). The possibility is raised that the *Chernobyl* disaster of May 1986 might have resulted in the elevation of the rate in an already susceptible population. Author-abstract.

651

AN 89181970. 89000.

AU Daroczy-S. Bolyos-A. Dezso-Z. Pazsit-A. Nagy-J. Nagy-M.

IN Institute of Chemistry and Institute of Physics, Kossuth University, Debrecen, Hungary.

TI Could mosses be used for the subsequent mapping of the *Chernobyl*

fallout?

SO Naturwissenschaften. 1988 Nov. 75(11). P 569-70.
JT NATURWISSENSCHAFTEN.
PT JOURNAL-ARTICLE (ART).

652

AN 89181918. 89000.
AU Rich-V.
TI *Chernobyl.* Soviet data made public `news:.
SO Nature. 1989 Mar 30. 338(6214). P 367.
JT NATURE.
PT NEWS (NEW).

653

AN 89175698. 89000.
AU Ward-G-M.
IN Department of Animal Sciences, Colorado State University, Fort Collins 80523.
TI Recent research involving the transfer of radionuclides to milk.
SO J-Dairy-Sci. 1989 Jan. 72(1). P 284-7.
JT JOURNAL OF DAIRY SCIENCE.
PT JOURNAL-ARTICLE (ART).
AB The radionuclides in milk, which result from exposure of dairy cows to radioactive fallout, are a major factor in assessment of internal radiation of humans. To evaluate the radionuclide intake of people from fallout-contaminated milk requires information about feed sources and milk distribution. Pasture intake and the shelf-life of milk are important factors in the case of a short-lived radionuclide like ¹³¹I. Large-scale human radiation assessment studies are underway, all of which consider the dairy food chain as a critical component. These include retrospective studies of fallout from nuclear weapons testing at the Nevada site in the 1950s and the impact of the *Chernobyl* accident on April 26, 1986.
Author-abstract.

654

AN 89173897. 89000.
AU Chung-C-E.
IN Institute of Nuclear Science, National Tsing Hua University, Taiwan, Republic of China.
TI Environmental radioactivity and dose evaluation in Taiwan after the *Chernobyl* accident.
SO Health-Phys. 1989 Apr. 56(4). P 465-71.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB A substantial increase in fission product activity was observed in various environmental samples taken in Taiwan after the *Chernobyl* accident. The concentration of long-lived fission products in air above ground, precipitation, grass, vegetation and milk were monitored in the next 7 wk. The individual effective dose equivalent

committed by the first year of exposure and intake following the accident were evaluated. Average individual doses for the population in Taiwan are estimated at 0.9 microSv due to global fallout from the *Chernobyl* accident. This value is lower than that reported in neighboring countries in the Far East and poses no increased health impact to the public in Taiwan. Author-abstract.

655

AN 89173896. 89000.

AU Martin-C-J. Heaton-B. Thompson-J.

IN Department of Bio-Medical Physics and Bio-Engineering, Aberdeen University, Foresterhill, Scotland, UK.

TI Cesium-137, 134Cs and 110mAg in lambs grazing pasture in NE Scotland contaminated by *Chernobyl* fallout.

SO Health-Phys. 1989 Apr. 56(4). P 459-64.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The decline in Cs radioisotope levels has been studied in tissues from lambs grazing lowland pasture. The lambs were slaughtered 18 and 115 d after contamination with *Chernobyl* fallout. During this time the Cs activity decreased to 13% of the initial amount in animals that had continued to graze contaminated pasture and to 3.5% in animals consuming uncontaminated feed. The 137Cs concentration in grass from the field grazed by the lambs decreased with a half-time of 22 d over the period 11-100 d after contamination. The amounts of Cs radionuclides removed from the pasture by the grazing animals amounted to only 0.01% of the total, the rest remaining in the soil, with over 40% in the upper 10 mm. Small amounts of 110mAg, found in grass, declined with a half-time of 8.9 d, and the radionuclide was found to accumulate in liver tissue. Author-abstract.

656

AN 89173895. 89000.

AU Mustonen-R-A. Reponen-A-R. Jantunen-M-J.

IN Finnish Centre for Radiation and Nuclear Safety, Helsinki, Finland.

TI Artificial radioactivity in fuel peat and peat ash in Finland after the *Chernobyl* accident.

SO Health-Phys. 1989 Apr. 56(4). P 451-8.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB The accident at the *Chernobyl* nuclear power plant in April 1986 caused very uneven deposition of radionuclides in Finland. The deposited radionuclides were found in relatively high concentrations in fuel peat and especially in peat ash because a thin surface layer of peat-production bogs was extracted as fuel peat soon after the fallout occurred. Concentrations of artificial radionuclides in fuel peat and peat ash were measured at six peat-fired power plants in Finland throughout the heating season 1986-87. Concentrations of 137Cs in composite peat samples varied between 30 and 3600 Bq kg-1 dry weight and in ash samples between 600 and 68,000 Bq kg-1. High

concentrations in peat ash caused some restrictions to the utilization of peat ash for various purposes. Author-abstract.

657

AN 89172387. 89000.
AU Dadak-C. Kosian-K. Rauscher-G. Hefner-A. Steger-F.
TI `Radioactive burden in the perinatal period following the reactor accident at *Chernobyl:.*
SO Gynakol-Rundsch. 1988. 28 Suppl 2. P 256-8.
JT GYNAKOLOGISCHE RUNDschau.
PT JOURNAL-ARTICLE (ART).

658

AN 89169306. 89000.
AU Bickler-G. Morrison-L.
TI What response did district medical officers make to the *Chernobyl* disaster? `see comments:.
SO Community-Med. 1988 Nov. 10(4). P 314-8.
JT COMMUNITY MEDICINE.
PT JOURNAL-ARTICLE (ART).

659

AN 89167511. 89000.
AU Nakajima-T.
IN Division of Physics, National Institute of Radiological Sciences, Chiba-shi, Japan.
TI Possibility of retrospective dosimetry for persons accidentally exposed to ionizing radiation using electron spin resonance of sugar and mother-of-pearl.
SO Br-J-Radiol. 1989 Feb. 62(734). P 148-53.
JT BRITISH JOURNAL OF RADIOLOGY.
PT JOURNAL-ARTICLE (ART).
AB An electron spin resonance (ESR) dosemeter was used to measure ESR absorption spectra of sugar and shell buttons made of mother-of-pearl, for the purpose of evaluating the external dose to exposed inhabitants in the vicinity of a radiation accident. The ESR absorption intensity of sugar was proportional to dose in the range from about 30 mGy to $6 \times 10(4)$ Gy. The lifetime of the free radical created in both sugar and shell buttons by radiation was stable for at least 6 months after irradiation. If sugar and shell goods left in or around houses since the occurrence of the *Chernobyl* reactor and the Brazilian accidents were obtained, it would be possible to estimate from them the integrated external dose to exposed people. Author-abstract.

660

AN 89166204. 89000.
AU Olofsson-L. Svensson-H.
IN Radiation Physics Department, University of Umea, Sweden.
TI The *Chernobyl* accident. Transport of radionuclides to man living in

northern Sweden.

SO Acta-Oncol. 1988. 27(6b). P 841-9.

JT ACTA ONCOLOGICA.

PT JOURNAL-ARTICLE (ART).

AB The pathways of ¹³¹I, ¹³⁴Cs and ¹³⁷Cs from the *Chernobyl* fallout to man were followed in the county of Vasterbotten, Sweden. Reported airplane measurements had shown that the ground deposition of ¹³⁷Cs was 3-40 kBq/m² with hot spots with more than 80 kBq/m². Multiplying with a factor of 0.6 gave the ¹³⁴Cs deposition and an approximate factor of 20 the ¹³¹I ground deposition. The effective dose equivalent from ¹³¹I became low, less than 0.1 mSv, as the cows were stabled. The ¹³⁷Cs activity concentration in different types of food was measured in approximately 8,000 samples. The most important sources of Cs intake in man were lake fish, elk (European moose) and reindeer. Variations with time was studied in detail for four types of lake fish. Whole-body measurements on more than 250 persons showed that no group of people on average received more than 1 mSv from food during the first year after the *Chernobyl* accident. However, single persons eating large amounts of reindeer meat received up to 2.5 mSv. People buying all their food in ordinary provision-shops got less than 0.1 mSv from the food during the first year. The present level of ⁹⁰Sr activity concentration in man will only give an effective dose equivalent of 0.004 mSv/year, most of it being a result of the atmospheric nuclear bomb tests.
Author-abstract.

661

AN 89150700. 89000.

AU Dutton-S. Harris-F.

TI Health effects of *Chernobyl* `letter:.

SO BMJ. 1989 Jan 14. 298(6666). P 119.

JT BMJ.

PT CLINICAL-TRIAL (CTR). LETTER (LET). MULTICENTER-STUDY (MUL).

662

AN 89145038. 89000.

AU Liniecki-J. Jankowski-J.

TI `Once more on the effects of the *Chernobyl* accident:.

SO Pol-Przegl-Radiol. 1987 Nov-Dec. 51(6). P 285-9.

PT JOURNAL-ARTICLE (ART).

663

AN 89143773. 89000.

TI Gorbachev's first *Chernobyl* visit since disaster `news:.

SO Nature. 1989 Mar 2. 338(6210). P 9.

JT NATURE.

PT NEWS (NEW).

664

AN 89143735. 89000.

AU Rich-V.
TI Byelorussia still alarmed by the effects of *Chernobyl* fallout `news:.
SO Nature. 1989 Feb 23. 337(6209). P 683.
JT NATURE.
PT NEWS (NEW).

665

AN 89141579. 89000.
AU Carmichael-R-J.
TI *Chernobyl:* the lessons learnt.
SO J-R-Nav-Med-Serv. 1988 Spring. 74(1). P 11-7.
JT JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE.
PT JOURNAL-ARTICLE (ART).

666

AN 89140633. 89000.
AU Linnemann-R-E.
TI Medical experience and preparedness for handling radiation injuries.
SO J-Med-Assoc-Ga. 1989 Feb. 78(2). P 95-100.
JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.
PT JOURNAL-ARTICLE (ART).
AB Medically significant overexposures have not occurred in 30 years of operating commercial nuclear power plants in this country. However, the medical communities around reactors in Georgia as well as the rest of the country, maintain a vigilance and preparations to handle these cases through semi-annual exercises using simulated patients. The programs at the Hatch and Vogtle plants provide not only for local care but also for specialty medical teams to arrive and assist in the triage and evacuation of casualties to definitive care centers for complete evaluation and treatment. This is not unlike the plan the Soviets used so successfully at *Chernobyl.* Author-abstract.

667

AN 89139050. 89000.
AU Gattavecchia-E. Ghini-S. Tonelli-D. Gori-G. Cama-G. Guerresi-E.
IN Institute of Chemical Sciences, University of Bologna, Italy.
TI Cesium-137 levels in breast milk and placentae after fallout from the reactor accident at *Chernobyl.*
SO Health-Phys. 1989 Feb. 56(2). P 245-8.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

668

AN 89139049. 89000.
AU Tracy-B-L. Walker-W-B. McGregor-R-G.
IN Bureau of Radiation and Medical Devices, Department of National Health and Welfare, Ottawa, Ontario.
TI Transfer to milk of 131I and 137Cs released during the *Chernobyl* reactor accident.
SO Health-Phys. 1989 Feb. 56(2). P 239-43.

JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

669

AN 89138135. 89000.
AU Gold-B. Tadmor-B. Har-Kedar-I.
TI `Medical consequences of the *Chernobyl* nuclear accident:.
SO Harefuah. 1988 Oct. 115(7-8). P 184-7.
JT HAREFUAH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB 22 Refs.

670

AN 89135179. 89000.
AU Pershagen-G.
TI Health effects of *Chernobyl* `editorial:.
SO BMJ. 1988 Dec 10. 297(6662). P 1488-9.
JT BMJ.
PT EDITORIAL (EDI).

671

AN 89116418. 89000.
AU Gale-R-P. Thompson-M-A. Crawford-M-A.
TI Recent radiation accidents. *Chernobyl* and Goiania: their impact and global implications. A presentation by Robert Peter Gale, MD, PhD.
SO Ala-J-Med-Sci. 1988 Oct. 25(4). P 439-44.
JT ALABAMA JOURNAL OF MEDICAL SCIENCES.
PT JOURNAL-ARTICLE (ART).

672

AN 89079452. 89000.
AU Gedikoglu-A. Sipahi-B-L.
IN Department of Physics, Faculty of Art and Science, Black Sea Technical University, Trabzon, Turkey.
TI *Chernobyl* radioactivity in Turkish tea `see comments:.
SO Health-Phys. 1989 Jan. 56(1). P 97-101.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

673

AN 89079448. 89000.
AU Hartmann-G. Thom-C. Bachmann-K.
IN Fachbereich fur Anorganische Chemie und Kernchemie der Technischen Hochschule Darmstadt, Federal Republic of Germany.
TI Sources for Pu in near surface air.
SO Health-Phys. 1989 Jan. 56(1). P 55-69.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB This paper provides evidence that most of the Pu in the near surface air today is due to resuspension. Vertical and particle size

distribution in near surface air over a period of three years were measured. The seasonal variations of Pu in air and the influence of meteorological parameters on these variations are shown. Samples were taken before the *Chernobyl* accident in an area where only Pu fallout from the atmospheric nuclear tests of the early sixties occurs. The comparison of the behavior of Pu with other trace elements, which were also measured, showed similar behavior of Pu and elements like Ca, Ti and Fe in near surface air. This confirms that most Pu is resuspended because the main source for these elements in air is the soil surface. Resuspension factors and resuspension rate are estimated for all measured elements. A resuspension factor of $0.8 \times 10^{-8} \text{ m}^{-1}$ and a resuspension rate of $0.09 \times 10^{-9} \text{ s}^{-1}$ is calculated for Pu. Author-abstract.

674

AN 89079444. 89000.
AU Ambach-W. Rehwald-W. Blumthaler-M. Eisner-H. Brunner-P.
IN Institute for Medical Physics, University of Innsbruck,
Austria/Europe.
TI *Chernobyl* fallout on Alpine glaciers.
SO Health-Phys. 1989 Jan. 56(1). P 27-31.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB Measurements of the gross beta activity of snow samples from four Alpine glaciers contaminated by radioactive fallout from the *Chernobyl* nuclear accident and a gamma-spectrum analysis of selected samples are reported. The results are discussed with respect to possible risks to the population from using meltwater from these glaciers as drinking water. Author-abstract.

675

AN 89079438. 89000.
AU Assimakopoulos-P-A. Ioannides-K-G. Pakou-A-A. Lolis-D.
Zikopoulos-K. Dusias-B.
IN Nuclear Physics Laboratory, University of Ioannina, Greece.
TI Radiocesium levels measured in breast milk one year after the reactor accident at *Chernobyl*.
SO Health-Phys. 1989 Jan. 56(1). P 103-6.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
AB One hundred-two samples of colostrum milk, collected during spring of 1987, approximately one year after the reactor accident at *Chernobyl*, were measured for radiocesium contamination. The data showed a normal-type distribution with a mean contamination concentration of 16.4 Bq L^{-1} . A weak correlation of the data to the mothers' diet was established by taking into account four of the main staples in the area. The corresponding transfer coefficient was deduced with a value of $f_m = 0.06 \pm 0.03 \text{ d L}^{-1}$. The resultant effective dose received by breast-feeding infants was estimated, on the average, as $0.012 \text{ mrem d}^{-1}$. Author-abstract.

676

AN 89073637. 89000.
TI A backward look at *Chernobyl* `news:.
SO Vet-Rec. 1988 Oct 22. 123(17). P 432.
JT VETERINARY RECORD.
PT NEWS (NEW).

677

AN 89072729. 89000.
AU Anspaugh-L-R. Catlin-R-J. Goldman-M.
IN Lawrence Livermore National Laboratory, Livermore, CA 94550.
TI The global impact of the *Chernobyl* reactor accident.
SO Science. 1988 Dec 16. 242(4885). P 1513-9.
JT SCIENCE.
PT JOURNAL-ARTICLE (ART).
AB Radioactive material was deposited throughout the Northern Hemisphere as a result of the accident at the *Chernobyl* Nuclear Power Station on 26 April 1986. On the basis of a large amount of environmental data and new integrated dose assessment and risk models, the collective dose commitment to the approximately 3 billion inhabitants is calculated to be 930,000 person-gray, with 97% in the western Soviet Union and Europe. The best estimates for the lifetime expectation of fatal radiogenic cancer would increase the risk from 0 to 0.02% in Europe and 0 to 0.003% in the Northern Hemisphere. By means of an integration of the environmental data, it is estimated that approximately 100 petabecquerels of cesium-137 (1 PBq = 10¹⁵ Bq) were released during and subsequent to the accident.
Author-abstract.

678

AN 89071855. 89000.
AU Young-R-W.
IN Radiation Policy Division, Defense Nuclear Agency, Washington, DC 20305.
TI *Chernobyl* in retrospect.
SO Pharmacol-Ther. 1988. 39(1-3). P 27-32.
JT PHARMACOLOGY AND THERAPEUTICS.
PT JOURNAL-ARTICLE (ART).

679

AN 89066227. 89000.
AU Papastefanou-C. Manolopoulou-M. Charalambous-S.
IN Department of Nuclear Physics, Aristotle University of Thessaloniki, Greece.
TI Cesium-137 in soils from *Chernobyl* fallout `see comments:.
SO Health-Phys. 1988 Dec. 55(6). P 985-7.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).

680

AN 89066216. 89000.

AU Baeza-A. del-Rio-M. Miro-C. Paniagua-J-M. Moreno-A. Navarro-E.

IN Departamento de Fisica, Facultad de Veterinaria, Universidad de Extremadura, Caceres, Spain.

TI Radiocesium concentration in migratory birds wintering in Spain after the *Chernobyl* accident.

SO Health-Phys. 1988 Dec. 55(6). P 863-7.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Levels of ¹³⁷Cs and ¹³⁴Cs resulting from the *Chernobyl* nuclear accident were studied in 195 birds that winter in two regions of Spain. Only five of the 12 species examined were contaminated. The average values for ¹³⁷Cs vary between 1.6 and 41 Bq kg⁻¹ fresh. In particular, the contamination for song-thrushes (*Turdus philomelos*) are compared between the regions of Extremadura and Valencia, 350 km east of Extremadura at the same latitude. The results show that the contamination of birds wintering in Spain decreases from east to west. The whole-body dose commitment for humans consuming these contaminated birds was calculated. The values are well below the established ICRP guideline. Author-abstract.

681

AN 89066215. 89000.

AU Bertilsson-J. Andersson-I. Johanson-K-J.

IN Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences, Uppsala.

TI Feeding green-cut forage contaminated by radioactive fallout to dairy cows.

SO Health-Phys. 1988 Dec. 55(6). P 855-62.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Grass contaminated by radioactive fallout from the *Chernobyl* accident was cut with 150 mm (Treatment 1) and 50 mm (Treatment 2) stubble height and fed to 20 dairy cows. The transfer of ¹³⁷Cs and ¹³¹I from the greencut forage to milk was studied during a four-week and a two-week period, respectively. The four-week period was followed by a three-week period with nearly uncontaminated feeds. Cutting with high stubble height significantly reduced the activity concentration in forage compared with low stubble cutting, the average contents kg⁻¹ dry matter being 385 Bq ¹³⁷Cs and 24 Bq ¹³¹I in Treatment 1 versus 6656 Bq ¹³⁷Cs and 249 Bq ¹³¹I in Treatment 2. Apparent treatment effects were also demonstrated by the ¹³⁷Cs concentration in milk, with maximum weekly means of 23 Bq kg⁻¹ (Treatment 1) and 92 Bq kg⁻¹ (Treatment 2). Single day maximum concentrations of ¹³¹I in milk were 4 Bq kg⁻¹ (Treatment 1) and 9 Bq kg⁻¹ (Treatment 2). The mean transfer coefficients (d kg⁻¹) were calculated to be 0.67×10^{-2} and 0.19×10^{-2} for ¹³⁷Cs (weeks 2-4) and 1.8×10^{-2} and 0.2×10^{-2} for ¹³¹I (week 2) in Treatments 1 and 2, respectively. The lower value for ¹³⁷Cs might possibly be associated with an

enhanced ash content of the forage. Feeding nearly uncontaminated rations rapidly decreased the ¹³⁷Cs levels in milk in both treatments with calculated effective half-times over the three-week period of 10 and 7 d, respectively. Author-abstract.

682

AN 89056215. 89000.
AU Burtsev-V-I. Obidina-N-A.
TI `Scientific conference on the "Medical Aspects of the Accident at the *Chernobyl* Atomic Electric Power Station":.
SO Klin-Med (Mosk). 1988 Aug. 66(8). P 155-7.
JT KLINICHESKAIA MEDITSINA.
PT JOURNAL-ARTICLE (ART).

683

AN 89048705. 89000.
AU Champlin-R-E. Kastenberg-W-E. Gale-R-P.
IN Department of Medicine, UCLA School of Medicine 90024.
TI Radiation accidents and nuclear energy: medical consequences and therapy`clinical conference:.
SO Ann-Intern-Med. 1988 Nov 1. 109(9). P 730-44.
JT ANNALS OF INTERNAL MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
AB After the accidents at *Chernobyl,* the Soviet Union, and in Goiania, Brazil, there is increasing concern about the medical risks from radiation accidents. This overview summarizes the principles of nuclear energy, the biologic effects of accidental radiation exposure, the emergency response to nuclear accidents, and approaches to treating radiation injuries. Also discussed are the related issues of reactor safety, the disposal of radioactive waste, and the proliferation of nuclear weapons. With the increasing use of radioactive materials for power, weapons, and medical diagnostics, the medical community needs to understand the health consequences of radiation exposure. Author-abstract. 112 Refs.

684

AN 89047637. 89000.
AU Gori-G. Cama-G. Guerresi-E. Cocchi-G. Dalla-Casa-P. Gattavecchia-E. Ghini-S. Tonelli-D.
IN Third Clinic of Obstetrics and Gynaecology, University of Bologna, Italy.
TI Radioactivity in breast milk and placentas during the year after *Chernobyl.*
SO Am-J-Obstet-Gynecol. 1988 Nov. 159(5). P 1232-4.
JT AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.
PT JOURNAL-ARTICLE (ART).
AB After the April 1986 nuclear reactor accident at *Chernobyl* in the Union of Soviet Socialist Republics, samples of human placenta and breast milk were tested for 1 year to determine the levels of radioactivity. The radionuclide iodine 131 was never beyond the

detection limit of our gamma detector for both matrices. As to cesium isotopes 134 and 137, the highest levels detected in breast milk (6 Bq.L-1) and placenta (15.8 Bq.kg-1) were recorded in March 1987. Study data for breast milk and placenta are in agreement with the values calculated by means of double-compartment food-milk and food-placenta models. With regard to placental content, the cesium contribution to the average dose during the year after the *Chernobyl* accident was calculated to be 40 to 60 microSv. Author-abstract.

685

AN 89045840. 89000.

AU Stogmann-W.

IN Gottfried von Preyer'sches Kinderspital, Wien.

TI `The radiation accident:.

SO Wien-Klin-Wochenschr. 1988 Aug 26. 100(16). P 542-6.

JT WIENER KLINISCHE WOCHENSCHRIFT.

PT JOURNAL-ARTICLE (ART).

AB The reactor accident of *Chernobyl* in April 1986 has shown us all the dangers which are inherent even in the peaceful use of atomic energy. The effects of exposure to ionizing radiation are dependent on biological effectiveness, on dose, on duration of exposure and on the age of the exposed person (the younger the graver). Acute ionizing radiation of the whole body leads to radiation disease or radiation syndrome of different stages of severity according to dosage. If the patient survives other consequences of ionizing radiation may arise: non-stochastic effects such as cataracts, keloid formation, fibrosis of the lungs and infertility) and stochastic effects (oncogenesis and mutagenesis). The sensitivity to ionizing radiation is especially high in childhood because of the high velocity of cell metabolism and cell growth, the large body-surface area and because their repair mechanism following radiation damage is not yet. Author-abstract.

686

AN 89033110. 89000.

AU Assimakopoulos-P-A. Ioannides-K-G. Pakou-A-A.

IN Nuclear Physics Laboratory, University of Ioannina, Greece.

TI The environmental behavior of 131I in northwestern Greece following the nuclear reactor accident at *Chernobyl*.

SO Health-Phys. 1988 Nov. 55(5). P 783-91.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB A three compartment (air-grass-milk) milk contamination model for 131I has been applied to atmospheric, grass and milk data, following the April 1986 nuclear accident at *Chernobyl*.* Samples of ovine and bovine milk collected daily by a large dairy company in Ioannina (northwestern Greece), throughout the month of May 1986 have been employed. The contamination impulse in the area, which provides the input to the model, has been approximated by a first order gamma-variate curve. Transfer rates and decay constants have been extracted by fitting predictions of the model independently to each

set of data (air, grass and milk). All model parameters obtained from more than one set of data show remarkable consistency. These parameters are used to calculate the transfer coefficients fm for the transport of radioiodine at equilibrium for sheep and cows. The results are also employed for the extraction of radiation dose estimates sustained through ingestion and inhalation by the population in the area. Author-abstract.

687

AN 89033108. 89000.

AU Nishizawa-K. Takata-K. Hamada-N. Ogata-Y. Kojima-S. Takeshima-K.

IN Radioisotope Center Medical Division, Nagoya University, Japan.

TI Monitoring of ¹³¹I in milk and rain water in Japan following the reactor accident at *Chernobyl* and estimates of human thyroidal dose equivalents.

SO Health-Phys. 1988 Nov. 55(5). P 773-7.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Iodine-131 in milk and in rain water in Nagoya, Japan, (a location 8,000 km from *Chernobyl*) was monitored between May and July 1986. The ¹³¹I concentration in rain water ranged from 43.1 Bq L⁻¹ on 4 May to 15 mBq L⁻¹ on 12 July, and that in milk ranged from 21.8 Bq L⁻¹ on 19 May to 11 mBq L⁻¹ on 14 July. Iodine-131 concentrations in milk were estimated to be 4 to 6 times greater than those in rain water during the first few weeks after the accident. Both concentrations decreased with approximately the same effective half-life of 5.9 +/- 0.3 d for rain water and 5.0 +/- 0.2 d for milk. The ¹³¹I concentration in milk sold in markets varied from dairy to dairy and ranged from 0.07 to 0.2 times that in fresh milk. The maximum thyroidal dose equivalents estimated for an adult man and for a baby were far lower than the population annual dose equivalent to the thyroid from natural radiation. Author-abstract.

688

AN 89010997. 89000.

AU Strand-S-E. Erlandsson-K. Lowenhielm-P.

IN Department of Radiation Physics, University of Lund, Sweden.

TI Thyroid uptake of iodine-131 and iodine-133 from *Chernobyl* in the population of southern Sweden.

SO J-Nucl-Med. 1988 Oct. 29(10). P 1719-23.

JT JOURNAL OF NUCLEAR MEDICINE.

PT JOURNAL-ARTICLE (ART).

AB The accident at the nuclear power plant of *Chernobyl* on April 26, 1986 led to radioactive contamination of many countries including Sweden. The population was exposed to released radionuclides, both by inhalation and from contaminated food. We have studied the content of gamma-emitting radioisotopes in the thyroid glands of a normal population from southern Sweden using measurements of samples taken at autopsy. The first samples are from a person who died on April 27, 1986. This report contains results for ¹³¹I and ¹³³I. The

time-activity curve for ^{131}I shows an immediate uptake with a maximum 18-26 days after the accident. No measurable levels were observed after 93 days. We have found that the increase in dose equivalent to the thyroid for the population of southern Sweden due to the released ^{131}I and ^{133}I will be less than 0.1 mSv. This may lead to an increase in the incidence of thyroid cancer of 0.1% during a period of 25 yr. Author-abstract.

689

AN 89007531. 89000.

AU Broadway-J-A. Smith-J-M. Norwood-D-L. Porter-C-R.

IN U.S. Environmental Protection Agency, Office of Radiation Programs, Eastern Environmental Radiation Facility, Montgomery, AL 36109.

TI Estimates of radiation dose and health risks to the United States population following the *Chernobyl* nuclear plant accident.

SO Health-Phys. 1988 Sep. 55(3). P 533-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

AB Estimates of both individual and collective doses received by the United States population following the *Chernobyl* accident have been made by using the data obtained from the U.S. Environmental Protection Agency's Environmental Radiation Ambient Monitoring System. Radionuclides associated with the debris first were measured in precipitation and surface air particulates at Portland, OR and Olympia, WA on 5 May 1986. Iodine-131 was the most consistently measured nuclide in all media, although several Cs and Ru isotopes also were observed. Strontium and any actinides notably were absent from the samples at the lower level of detection. The highest calculated individual-organ dose due to intake during May and June 1986 was 0.52 mSv to the infant thyroid in the state of Washington. This was predominantly (98%) from the ingestion of milk. The maximum U.S. collective dose equivalent to any organ was calculated to be 3,300 person-Sv to the thyroid. Risk estimates project three excess lung cancer deaths and an additional four deaths due to cancers of thyroid, breast and leukemia in the U.S. population over the next 45 y from exposure during the May-June 1986 interval. The only long-lived radionuclide measured in milk samples following the accident was ^{137}Cs . We estimate 20 excess fatalities from the ingestion of ^{137}Cs in milk during all subsequent years, with six of these due to lung cancer and the majority of the remainder distributed approximately equally among cancers of the thyroid, breast, liver and leukemia. A total of 100 excess fatalities from all dietary components was estimated. Because of the uncertainty of risk estimates from data such as those available for this study, all calculated values carry a range of uncertainty from a minimum of one-half the calculated value to a maximum of two times the calculated value. The estimated excess fatalities given above may be compared with corresponding projected cancer mortality from all other causes: 41,000 fatalities from thyroid cancer and 3,800,000 fatalities from lung cancer are estimated to occur within the U.S.

population during the next 45 y. Author-abstract.
-END OF DISPLAY REQUEST-
END OF DOCUMENTS IN LIST

ENTER SEARCH TERMS, COMMAND, OR H FOR HELP
SEARCH 2-->Connection closed by foreign host.

Hit <RETURN> to continue.

O

Today is: Wed Apr 6 19:56:01 1994

TABLE OF CHOICES

Alter Configuration	A
Connect to Other Services	C
Directory Service	D
File Management	F
Electronic Mail	M
Access USENET	N
Change your password	P
Transfer Files	T
View (Display) a File	V
Quit	Q

Enter your choice:

Invalid Entry

Today is: Wed Apr 6 19:56:03 1994

TABLE OF CHOICES

Alter Configuration	A
---------------------------	---

NO CARRIER

====> Disconnected 08:00pm Wednesday, April 06, 1994

OK

ATM0S0=0

OK

ATDT7985859

CONNECT 19200/ARQ

====> Connected 10:07pm Wednesday, April 06, 1994

watson login: arminw

Password:

Last login: Wed Apr 6 19:21:06 on ttyd8

SunOS Release 4.1.3 (WATSON) #1: Thu Feb 24 17:18:49 CST 1994

Logging in arminw on watson at Wed Apr 6 22:03:46 1994
Network Shell \$Revision: 2.2 \$

TERMINALS:

Type	Brand Name
adm3	L-Si Adm3
adm3a	L-Si Adm3a
h19	Heath 19
sun.....	Sun Console
tvi912	Televideo 912
tvi920	Televideo 920
tvi950	Televideo 950
unknown	Unknown
vt52	DEC VT52
vt100	DEC VT100 (or PC running MS-KERMIT)
vt220	DEC VT220
xterm	X-TERM

Current Terminal type is <vt102>. Look for your terminal brand name in the right-hand column and select its name from the left-hand column.

Hit the return or enter key to retain the current type or enter a new terminal type name and then hit the return or enter key:

Terminal type is now vt102.

No mail today.

Hit <RETURN> to continue.

++++
Welcome to the Baylor College of Medicine Network Mail Server
If you have any problems, please send mail to netmgr.

++++
To skip the rest of this message, please hit "q" at the next prompt.
To see the see the next full page, hit the "space bar" key.

Please note that is a violation of the 1990 Texas Penal Code 33.02 to give your password to others for any reason. This is a class A misdemeanor.

NOTICES:

4/4/94

The network shell default terminal type is now selected from the your profile and not from information passed to it via the network. This is like the behavior of the old shell. We appologize for any confusion this may have caused, but we intend to provide some means for the network information to be used.

FORECAST:

'Press SPACE for more, q to quit'

Hit <RETURN> to continue.

Today is: Wed Apr 6 22:03:52 1994

TABLE OF CHOICES

```
Alter Configuration ..... A
Connect to Other Services ... C
Directory Service ..... D
File Management ..... F
Electronic Mail ..... M
Access USENET ..... N
Change your password ..... P
Transfer Files ..... T
View (Display) a File ..... V

Quit ..... Q
```

Enter your choice: m

```
|04/06/94      10:03 PM|
|
|EZ Mail Services|
|=====|
|_ [R]ead Mail|
|_ [S]end Mail|
|_ [M]ailing List & Alias|
|_ [Q]uit|
|
|Press Enter key at desired selection or corresponding letter|
+-----X
          No New Mail                                         Read
Saved Messages[y/n]?
y+-----
|_ [R]ead   _ [D]elete   _ [P]repare Response   _ [F]orward message|
|_ [C]urrent-List   _ [N]ext Screen   _ [Q]uit   Archived Listing   |
|=====|
|SenderDateLines Subject:|
|=====|
|_ 1 arminwMar 30, 13:409 ONR Contract|
|_ 2 arminwMar 30, 14:002 ONR update|
```

```
| _ 3 arminwMar 30, 14:0514 leon|
| _ 4 arminwMar 30, 15:3513 dick|
| _ 5 crocodil!csoft!relay1!rosau Mar 30, 17:1119 Delivering Errors|
| _ 6 philipmMar 30, 22:132 Re: dick|
| _ 7 crocodil!csoft!relay1!rosau Mar 31, 10:4719 Delivering Errors|
| _ 8 hcooperMar 31, 17:2180 Computer Exports|
| _ 9 <@VM42.CSO.UIUC.EDU:HEDIR@S Apr 1 , 09:34841|
| _10 llaufmanApr 1 , 15:0016 fyi|
| _11 llaufmanApr 1 , 18:3812 Re: fyi|
| _12 llaufmanApr 1 , 18:5625 E-Mail Messages|
| _13 llaufmanApr 1 , 19:3328 E-mail Messages|
| _14 dispatcher@crick.ssctr.bcm. Apr 1 , 19:3428 AR System New Entry |
| _15 dispatcher@crick.ssctr.bcm. Apr 3 , 13:5119 AR System Notificat |
| _16 <@sequent.kiae.su,@bitmcnit Apr 3 , 16:1854 Idea|
| Press Return key at desired seletion or corresponding letter|
```

```
+-----
[N]ext Screen17 llaufmanApr 4 , 12:1811 Re: E-Mail Messages18 philipmApr 4 ,
16:21Re: ONR-II Proposal19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!20
llaufmanApr 5 , 10:19376 A New R-2521 roman@rosa.kiev.ua Apr 6 , 09:498
Succeful recive you22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913where are you23
llaufman Apr 6 , 11:437 Romanenko E-mail 24 llaufmanApr 6 , 12:16
5 Re: fyi 25 marnie@ccwf.cc.utexas.edu 6 , 16:17 8 Re: shalom!26
marnie@ccwf.cc.utexas.edu6 , 16:273 Re: shalom!27 lovell_jones@gyn.mda.uth.tm6 ,
16:3430NIEHS28 marnie@ccwf.cc.utexas.edu6 , 16:483 lunch friday 29
pybw773@utxvm.cc.utexas.edu6 , 16:54 7 Reconnecting
```

[R]ead

_ [N]ext Scree

XFrom: marnie@ccwf.cc.utexas.edu
Subject: Re: shalom!
To: arminw@bcm.tmc.eduI forgot to tell you congratulations on Lindsay's making the
state gymnastics fi
nals again! When does she get to go to the Olympics?
How is Danny doing?Oh- I also wanted to tell you that if you know anyone who would
like a summer
volunteer-I have a friend at Duke-(BRILLIANT! HARD-WORKER! PRE-MED)
who is looking for some experience in a scientific field. His name
is Josh Septimus and his e-mail is septimus@acpub.duke.edu
or just let me know and I'll relay the message.What time do you have to be in Dallas
Friday?Talk to you soon, Marni
more:

```
+-----
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
```

```

| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
|=====|
| Sender Date Lines Subject: |
|=====|
|_17 llaufman Apr 4 , 12:18 11 Re: E-Mail Messages |
|_18 philipmApr 4 , 16:21 12 Re: ONR-II Proposal |
|_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:09 25 shalom! |
|_20 llaufman Apr 5 , 10:19 376 A New R-25 |
|_21 roman@rosa.kiev.ua Apr 6 , 09:49 18 Succesful recive you |
|_22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:49 13 Re: where are you|
|_23 llaufman Apr 6 , 11:43 17 Romanenko E-mail|
|_24 llaufmanApr 6 , 12:16 5 Re: fyi|
|_25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:17 8 Re: shalom!|
|X26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:27 13 Re: shalom!|
|_27 lovell_jones@gyn.mda.uth.tn Apr 6 , 16:34 30 Re: NIEHS|
|_28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:48 23 lunch friday|
|_29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:54 7 Reconnecting|
|
|
|
| Press Return key at desired seletion or corresponding letter|
+-----+
[R]ead_ [R]ead

```

XFrom: marnie@ccwf.cc.utexas.edu

Subject: lunch friday

To: arminw@bcm.tmc.edu Well, beleive it or not, I just spoke with Dr. Gottlieb and she said lunch Friday will be just fine. I gave her your e-mail address and she said she'd get in touch with you and work it all out.

So, if you need me, too, one of you needs to let me know what you decide.

Also, I meant to thank you for all the diaspora and other stuff you gave me to help with my proposal- I couldn't have written it with out those papers. It was just the information I needed to put it all into perspective.

Thanks! and thanks for meeting with Dr. Gottlieb for me- I really do appreciate it.

One more thing-There was a health fair here last week, and I happened to go by a table for the school of public health in Houston.

I was wondering about a couple of things. First of all, what kind of jobs does a PHD in public health get you, what about an MD and a masters in public health, and- I know you have a PHD in anatomy (unless I am mistaken)- if I don't get accepted into med school, how would I get a job

like yours?All right- that's all for now.

more:

Bye!

-Marniemore:

```
+-----+
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
|=====|
|SenderDateLines Subject:|
|=====|
|_17 llaufmanApr 4 , 12:1811 Re: E-Mail Messages |
|_18 philipmApr 4 , 16:212 Re: ONR-II Proposal |
|_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!|
|_20 llaufmanApr 5 , 10:19376 A New R-25|
|_21 roman@rosa.kiev.uaApr 6 , 09:4918 Succeful recive you |
|_22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913 Re: where are you|
|_23 llaufmanApr 6 , 11:4317 Romanenko E-mail|
|_24 llaufmanApr 6 , 12:165 Re: fyi|
|_25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:178 Re: shalom!|
|_26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:2713 Re: shalom!|
|_27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:3430 Re: NIEHS|
|X28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:4823 lunch friday|
|_29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:547 Reconnecting|
||
||
||
| Press Return key at desired seletion or corresponding letter|
+-----+
[R]ead_ [R]ead
```

XFrom: pybw773@utxvm.cc.utexas.edu

Subject: Reconnecting

To: ArminW@bcm.tmc.eduMarnie Rose called me re lunch on Friday. That would be fine-- let me know

what your schedule is. That will be fun. Marnies study looks interesting-- and I'm looking forward to talking more about that. It will be fun to see you-- its really been a while! H0pe all is going well.more:

```
+-----+
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
```



```

=====
Sender                      Date                Lines  Subject:
=====
_17 llaufman                Apr 4 , 12:18       11 Re: E-Mail Messages
_18 philipm                 Apr 4 , 16:21        2 Re: ONR-II Proposal
_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!
_20 llaufmanApr 5 , 10:19376 A New R-25|
_21 roman@rosa.kiev.uaApr 6 , 09:4918 Succesful recive you |
_22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913 Re: where are you|
_23 llaufmanApr 6 , 11:4317 Romanenko E-mail|
_24 llaufmanApr 6 , 12:165 Re: fyi|
_25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:178 Re: shalom!|
_26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:2713 Re: shalom!|
_27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:3430 Re: NIEHS|
_28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:4823 lunch friday|
X29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:547 Reconnecting|
|
|
|
|
| Press Return key at desired seletion or corresponding letter|
+-----+
[R]ead_ [R]ead

```

XFrom: pybw773@utxvm.cc.utexas.edu
 Subject: Reconnecting
 To: ArminW@bcm.tmc.edu Marnie Rose called me re lunch on Friday. That would be fine-- let me know what your schedule is. That will be fun. Marnies study looks interesting-- and I'm looking forward to talking more about that. It will be fun to see you-- its really been a while! HOpe all is going well.more:

```

+-----+
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
+-----+
Sender                      Date                Lines  Subject:
=====
_17 llaufman                Apr 4 , 12:18       11 Re: E-Mail Messages
_18 philipm                 Apr 4 , 16:21        2 Re: ONR-II Proposal
_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!
_20 llaufmanApr 5 , 10:19376 A New R-25|

```

| _21 roman@rosa.kiev.uaApr 6 , 09:4918 Succesful recive you |
| _22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913 Re: where are you|
| _23 llaufmanApr 6 , 11:4317 Romanenko E-mail|
| _24 llaufmanApr 6 , 12:165 Re: fyi|
| _25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:178 Re: shalom!|
| _26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:2713 Re: shalom!|
| _27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:3430 Re: NIEHS|
| _28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:4823 lunch friday|
| X29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:547 Reconnecting|

| Press Return key at desired seletion or corresponding letter|

+-----
[R]ead_ [R]eadXFrom: pybw773@utxvm.cc.utexas.edu

Subject: Reconnecting

To: ArminW@bcm.tmc.eduMarnie Rose called me re lunch on Friday. That would be fine-- let me know

what your schedule is. That will be fun. Marnies study looks interesting-- and I'm looking forward to talking more about that. It will be fun to see you-- its really been a while! HOpe all is going well.more:

+-----
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |

=====

Sender	Date	Lines	Subject:
=====	=====	=====	=====
_17 llaufman	Apr 4 , 12:18	11	Re: E-Mail Messages
_18 philipm	Apr 4 , 16:21	2	Re: ONR-II Proposal
_19 marnie@ccwf.cc.utexas.edu	Apr 5 , 19:0925		shalom!
_20 llaufman	Apr 5 , 10:19376		A New R-25
_21 roman@rosa.kiev.ua	Apr 6 , 09:4918		Succesful recive you
_22 <@sequent.kiae.su,@ausch.uu	Apr 6 , 09:4913		Re: where are you
_23 llaufman	Apr 6 , 11:4317		Romanenko E-mail
_24 llaufman	Apr 6 , 12:165		Re: fyi
_25 marnie@ccwf.cc.utexas.edu	Apr 6 , 16:178		Re: shalom!
_26 marnie@ccwf.cc.utexas.edu	Apr 6 , 16:2713		Re: shalom!
_27 lovell_jones@gyn.mda.uth.tm	Apr 6 , 16:3430		Re: NIEHS
_28 marnie@ccwf.cc.utexas.edu	Apr 6 , 16:4823		lunch friday
X29 pybw773@utxvm.cc.utexas.edu	Apr 6 , 16:547		Reconnecting

=====

| Press Return key at desired seletion or corresponding letter|

+-----
[R]ead_ [P]repare Response

X

To: pybw773@utxvm.cc.utexas.edu

Subject: Re: Reconnecting

Enter Carbon copy recipients or press return to leave blank

Cc: _____marnie

Enter Blind carbon copy recipients or press return to leave blank

Bcc: _____ PICO 1.6

```

New Buffer
^R Read File^Y Prev Pg ^K Del Line ^C Cur Pos ^X Exit ^G Get Help ^O WriteOut
^V Next Pg ^U UnDel Lin^T To Spell [ New file ] PICO 1.6 File:
/tmp/MSGBAa07006 PICO 1.6 File:
/tmp/MSGBAa07006 Modified WellI Ifyouwouldmeetmeatthere
GuestQuartersHotel'srestaru urantitwould aroun
atnoonitwouldwouldhelpmeoutsinceme
ymeetingisattheTMABuildingacrossthestreet.street.Themeetingstartsat9:30andend
isscheduledtoendat4or4:30.I IamcopyingN
Marnieonthissoshewillknowtojoinus.Wedohavealotto tocatchuponand
.IappreciateyourwillingnesstohelpwithMarnie'sproject.project.Ifthe havetotack
keavisitingscientisttotheari
irporttomorrowafternoofternoonandwilleitherleavefromthereforAustinordriveupearlySa
FridayFridaymorning.IfthereisaproblemwithmeetingmeattheGuestQuartersQuarterspleasepa
geme7
at713-289-6974(waitforthetoneandenteryourareaareacodeandnumberandI'llreturnthecall)
and I'll return the call.[ Checking spelling... ]C Cancel
```

MarnieEdit a replacement:

MarnieMarnieMarnie'sEdit a replacement:

Marnie'sMarnie'sTMAEdit a replacement:

```

TMATMA[ Done checking spelling ] PICO 1.6
File: /tmp/MSGBAa07006 Modified ^G Get Help ^O
WriteOut ^R Read File^Y Prev Pg ^K Del Line ^C Cur Pos ^X Exit ^J Justify ^W
Where is ^V Next Pg ^U UnDel Lin^T To Spell See SeeyouonFriday.ArminModified
buffer: Save before leaving (y/n)? YesC Cancel
^T To Files
```

File Name to write :

```

/tmp/MSGBAa07006[ Writing... ][ Wrote 15 lines
]+-----+|||||_ [M]ail Message|_ [I]nsert File
to Message ||_ [S]ave Message||_ [C]ancel
Message|||||+-----+X Are
you sure[y/n]? ySendingMail--PleasWait
Message successfully mailed
```

Press Any Key to Continue:

```
+-----+
| _ [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
|=====|
|SenderDateLines Subject:|
|=====|
|_17 llaufmanApr 4 , 12:1811 Re: E-Mail Messages |
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|_20 llaufmanApr 5 , 10:19376 A New R-25|
|_21 roman@rosa.kiev.uaApr 6 , 09:4918 Succesful recive you |
|_22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913 Re: where are you|
|_23 llaufmanApr 6 , 11:4317 Romanenko E-mail|
|_24 llaufmanApr 6 , 12:165 Re: fyi|
|_25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:178 Re: shalom!|
|_26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:2713 Re: shalom!|
|_27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:3430 Re: NIEHS|
|_28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:4823 lunch friday|
|_29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:547 Reconnecting|
||
||
||
| Press Return key at desired seletion or corresponding letter|
+-----+
[Q]uit 04/06/94 10:14 PM
```

```
[R]ead Mail          _ [S]end Mail
  _ [M]ailing List & Alias      _ [Q]uit
```

Enter key

at desired selec

X+-----+

|04/06/94 10:14 PM|

```
| |  
| |  
| |  
| |  
| |  
| |  
| |  
| |  
| |  
| Send Mail |  
| ===== |  
| |  
| |  
|_ [C]ompose Message |  
|_ [L]ist Unmailed Messages |  
|_ [Q]uit |
```

```
| Press Enter key at desired selection or press corresponding letter|
```

-----X-----
-----+----- Please

Enter|| Recipient: _____
||Subject: _____ ||Cc: _____
||Bcc: _____

```
|+-----+marni
elunch
```

```

PICO 1.6                                New Buffer                                ^G
Get Help ^O WriteOut ^R Read File^Y Prev Pg  ^K Del Line ^C Cur Pos  ^X Exit    ^J
Justify  ^W Where is ^V Next Pg  ^U UnDel Lin^T To Spell [ New file ]    PICO 1.6
File: /tmp/MSGCAAa07006                                PICO 1.6

```

```
File: /tmp/MSGCAAa07006 Modified
IsentNellanotewhichyoushouldhaveacopyof.IfitisokaywithbothbothofyouI'llmeetyouattheG
uestQuarterHoe telatnoon.Th Wehaverecie
eivereceived70responsesalreadyfromthemeetingattheJCC.Iamsureyouwillwillhaveplentytod
othissummer.WecantalkaboutpublichealthatlunchsinceNellhasadegreefromtherethereIbelie
ve.Youhavemynumberifyouneedtoreachme.I
YoucanalwaysgettoPatorKareKarenifyoucan't.SeeyouonFriday.ArminModified buffer: Save
before leaving (y/n)? YesC Cancel
```

^T To Files

File Name to write :

```
/tmp/MSGCAAa07006[ Writing... ][ Wrote 17 lines
```

```
]+-----+|||||||_ [M]ail Message||_ [I]nset File
to Message ||_ [S]ave Message||_ [C]ancel
```

Message |||||+-----+X

Are

you sure[y/n]?

ySendingMail--PleasWait

Message successfully mailed

Press Any Key to Continue:

```
|04/06/94      10:20 PM|  
|  
|  
|  
|  
|          |  
|          |  
|          |  
|Send Mail   |  
|=====    |  
|          |  
|          |  
|_ [C]ompose Message      |  
|_ [L]ist Unmailed Messages|  
|_ [Q]uit                |  
|          |  
|          |  
|          |
```

```

||
|
| Press Enter key at desired selection or press corresponding letter|
+-----XEZ
Mail Services===== _ [R]ead Mail_ [S]end Mail _ [M]ailing
List & Alias _ [Q]uit corresponding letter X No New Mail
Read Saved Messages[y/n]?

```

```

y+-----+
| _ [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
|=====|
|SenderDateLines Subject:|
|=====|
| _ 1 arminwMar 30, 13:409 ONR Contract|
| _ 2 arminwMar 30, 14:002 ONR update|
| _ 3 arminwMar 30, 14:0514 leon|
| _ 4 arminwMar 30, 15:3513 dick|
| _ 5 crocodil!csoft!relay1!rosau Mar 30, 17:1119 Delivering Errors|
| _ 6 philipmMar 30, 22:132 Re: dick|
| _ 7 crocodil!csoft!relay1!rosau Mar 31, 10:4719 Delivering Errors|
| _ 8 hcooperMar 31, 17:2180 Computer Exports|
| _ 9 <@VM42.CSO.UIUC.EDU:HEDIR@S Apr 1 , 09:34841|
|_10 llaufmanApr 1 , 15:0016 fyi|
|_11 llaufmanApr 1 , 18:3812 Re: fyi|
|_12 llaufmanApr 1 , 18:5625 E-Mail Messages|
|_13 llaufmanApr 1 , 19:3328 E-mail Messages|
|_14 dispatcher@crick.ssctr.bcm. Apr 1 , 19:3428 AR System New Entry |
|_15 dispatcher@crick.ssctr.bcm. Apr 3 , 13:5119 AR System Notificat |
|_16 <@sequent.kiae.su,@bitmcnit Apr 3 , 16:1854 Idea|
| Press Return key at desired seletion or corresponding letter|
+-----+

```

```

[N]ext Screen17 llaufmanApr 4 , 12:1811 Re: E-Mail Messages18 philipmApr 4 ,
16:21Re: ONR-II Proposal19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!20
llaufmanApr 5 , 10:19376 A New R-2521 roman@rosa.kiev.ua Apr 6 , 09:498
Succesful recive you22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913where are you23
llaufman Apr 6 , 11:437 Romanenko E-mail 24 llaufmanApr 6 , 12:16
5 Re: fyi 25 marnie@ccwf.cc.utexas.edu 6 , 16:17 8 Re: shalom!26
marnie@ccwf.cc.utexas.edu6 , 16:273 Re: shalom!27 lovell_jones@gyn.mda.uth.tmc ,
16:3430NIEHS28 marnie@ccwf.cc.utexas.edu6 , 16:483 lunch friday 29
pybw773@utxvm.cc.utexas.edu6 , 16:54 7 Reconnecting

```

[R]ead _ [N]ext Scree

```

XFrom: roman@rosa.kiev.ua
Subject: Succesful recive you message .....
To: arminw@bcm.tmc.eduFrom:Prof.Anatoly Ye.Romanenko To: Dr. Armin

```

WeinbergDirector General,ResearchBaylor College of MedicineCenter for Radiation
MedicineMethodist HospitalAcademy of Medical SciencesHouston, Texas, USAof Ukraine,
Melnikova str.,53E-MAIL: arminw@bcm.tmc.edu254050 KIEV UKRAINEE-MAIL:
roman%rosa.kiev.ua@relay.ua.netDear Armin,We have received your E-mail letter.
Today we are sending to youour invitation.Sincerely
yours,6,April,1994Anatoly.Ye.Romanenkomore:

```
+-----+
|  [R]ead  _ [D]elete  _ [P]repare Response  _ [F]orward message|
|  _ [C]urrent-List  _ [N]ext Screen  _ [Q]uit  Archived Listing  |
|=====|
|SenderDateLines  Subject:|
|=====|
|_17 llaufman                Apr 4 , 12:18      11 Re: E-Mail Messages  |
|_18 philipm                Apr 4 , 16:21        2 Re: ONR-II Proposal  |
|_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:09      25 shalom!|
|_20 llaufman                Apr 5 , 10:19      376 A New R-25  |
|X21 roman@rosa.kiev.ua      Apr 6 , 09:4918 Succeful recive you  |
|_22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:49 13 Re: where are you|
|_23 llaufmanApr 6 , 11:4317 Romanenko E-mail|
|_24 llaufman                Apr 6 , 12:165 Re: fyi|
|_25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:178 Re: shalom!|
|_26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:27      13 Re: shalom!  |
|_27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:3430 Re: NIEHS|
|_28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:48      23 lunch friday|
|_29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:54      7 Reconnecting|
|
|
|
|
| Press Return key at desired seletion or corresponding letter|
+-----+
[R]ead_  [Q]uit                                     04/06/94   10:22 PM
```

EZ Mail Services

=====

```
_ [R]ead Mail
_ [M]ailing List & Alias
_ [S]end Mail
_ [Q]uit
```

Enter key at desired

```
selectX+-----+
-+
|04/06/94   10:03 PM|
|
|
|
|
```



```
||
||
|Mailing Lists & Aliases|
|=====|
```

```
||
|_ [C]reate|
|_ [D]elete|
|_ [L]ist|
|_ [Q]uit|
||
```

```
||
||
| Press Enter key at desired selection or press corresponding letter|
```

```
+-----X_Mai
ling List or Alias[m/a]? a                               Aliases
=====AliasR
ecipient===== _ 1
adameadam@bcm.tmc.edu_ 2 arminarminw@bcm.tmc.edu_ 3
glorialeonx003@maroon.tc.umn.edu_ 4 greenberg           greenberg@hadassah.bitnet_ 5
hedir             hedir@siucvmb.siu.edu_ 6 karkshiluv@hadassah.bitnet_ 7 kelner
akson@bitmcnit.bryansk.su_ 8 lane             mlane@bcm.tmc.edu_ 9 laporte
rlaporte@vms.cis.pitt.edu_10 laufman          llaufman@bcm.tmc.edu_11
leonshiluv@hadassah.bitnet_12 lgreenlgreen@unixg.ubc.ca_13
lovelllovell_jones@gyn.mda.uth.tmc.edu_14 markga3748@siucvmb.siu.edu_15
marlergmarler@rhqvm15.vnet.ibm.com_16 marniemarnie@ccwf.cc.utexas.edu_17
mitchmg690358@bcm.tmc.edu_18 corresponding letter _ [D]elete _ [N]ext Screen _
[Q]uit [N]ext Screen18 nickiammari@ricevm1.rice.edu19 nikitaNIKITA@AUSCH.MSK.SU20
pat   ukaszew@bcm.tmc.edu      21 paul       hcooper@bcm.tmc.edu      22
pavlikvpavlik@bcm.tmc.edu  23 petersonpeterson@9.24.span.nasa.gov24 phil
philipm@bcm.tmc.edu        25 prilipkoprilipko@who.ch 26 roll   oll@hadassah.bitnet
27 romanenkoroman%rosa.kiev.ua@relay.ua.net28 shevelevashe@bitmcnit.bryansk.su29
spiro mespiro@icrher.win.net30 turnerturner@bcm.tmc.edu      31
walkupjwalkup@dalvmic5.vnet.ibm.com32 yuri   riaboukhine@who.ch
_ [N]ext Screen [Q]uit
```

04/06/94 10:03 PM

Mailing Lists & Aliases

```
=====
_ [C]reate          _ [D]elete          _ [L]ist
_ [Q]uit
```

press corresponding

letterX_Mailing List or Alias[m/a]? a

22Add New

AliasPlease enter alias:

Enter a ? for help

```

_____nellPlease enter
recipient:_____
____pybw773@utxvm.cc.utexas.eduRecipient:pybw773@utxvm.cc.utexas.eduAliased: nell
Are you sure[y/n]? yDoYouWish to
Enter More[y/n]? n03

Mailing Lists & Aliases===== _ [C]reate_ [D]elete_
[L]ist_ [Q]uit Press Enter key at
desired selection or press corresponding letter X2 EZ Mail Services
_ [R]ead Mail_ [S]end Mail_ [M]ailing List & Alias_ [Q]uit corresponding letter

X Send Mail ===== _ [C]ompose Message _
[L]ist Unmailed Messages _ [Q]uitpress corresponding
letterX+-----+
+| Please Enter|| Recipient:
|
|
|
|
|+-----+nellc
onfirmation
PICO 1.6 New Buffer ^G
Get Help ^O WriteOut ^R Read File^Y Prev Pg ^K Del Line ^C Cur Pos ^X Exit ^J
Justify ^W Where is ^V Next Pg ^U UnDel Lin^T To Spell [ New file ] PICO 1.6
File: /tmp/MSGDAAa07006 PICO 1.6
File: /tmp/MSGDAAa07006 Modified
NellIjustwantedtoaddyouremailtomydirectoryandtesttomakesureI
Ihaveenteredyouraddresscorrectly.Bynowyoushouldhavereceivedmyrep replyaboutlunc
nchattheQuest
GuestQuartersatnoon.Hopefullythismessagewillwillgettoyouandnotbacktome!SeeyouonFrida
y.Armin, I just wanted to add your email to my directory and test to make sure I
just wanted to add your email to my directory and test to make sureI have entered
your address correctly. By now you should have received myreply about lunch at the
Guest Quarters at noon. Hopefully this messagewill get to you and not back to
me!See you on Friday.Armin I just wanted to add your email to my directory and test
to make sureI have entered your address correctly. By now you should have received
myreply about lunch at the Guest Quarters at noon. Hopefully this messagewill get
to you and not back to me!See you on Friday.ArminModified buffer: Save before
leaving (y/n)? YesC Cancel
^T To Files
File Name to write :
/tmp/MSGDAAa07006[ Writing... ][ Wrote 10 lines
]+-----+|||||_ [M]ail Message|_ [I]nsert File
to Message ||_ [S]ave Message|_ [C]ancel
Message|||||+-----+X Are
you sure[y/n]? ySendingMail--PleasWait
Message successfully mailed

```

Press Any Key to Continue:

```
+-----+
|04/06/94      10:25 PM|
|
|
|
|
|
|Send Mail |
|===== |
|
|_ [C]ompose Message |
|_ [L]ist Unmailed Messages|
|_ [Q]uit |
|
|
|
|
|
|
|
|Press Enter key at desired selection or press corresponding letter|
+-----XEZ
Mail Services===== _ [R]ead Mail_ [S]end Mail _ [M]ailing
List & Alias _ [Q]uit corresponding letter X No New Mail
Read Saved Messages[y/n]?

y+-+-----+
|_ [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
|_ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
```

```

=====
|SenderDateLines  Subject:|
=====
|_ 1 arminwMar 30, 13:409 ONR Contract|
|_ 2 arminwMar 30, 14:002 ONR update|
|_ 3 arminwMar 30, 14:0514 leon|
|_ 4 arminwMar 30, 15:3513 dick|
|_ 5 crocodil!csoft!relay1!rosau Mar 30, 17:1119 Delivering Errors|
|_ 6 philipmMar 30, 22:132 Re: dick|
|_ 7 crocodil!csoft!relay1!rosau Mar 31, 10:4719 Delivering Errors|
|_ 8 hcooperMar 31, 17:2180 Computer Exports|
|_ 9 <@VM42.CSO.UIUC.EDU:HEDIR@S Apr 1 , 09:34841|
|_10 llaufmanApr 1 , 15:0016 fyi|
|_11 llaufmanApr 1 , 18:3812 Re: fyi|
|_12 llaufmanApr 1 , 18:5625 E-Mail Messages|
|_13 llaufmanApr 1 , 19:3328 E-mail Messages|
|_14 dispatcher@crick.ssctr.bcm. Apr 1 , 19:3428 AR System New Entry      |
|_15 dispatcher@crick.ssctr.bcm. Apr 3 , 13:5119 AR System Notificat      |
|_16 <@sequent.kiae.su,@bitmcnit Apr 3 , 16:1854 Idea|
| Press Return key at desired seletion or corresponding letter|

```

```

+-----+
[N]ext Screen17 llaufmanApr 4 , 12:1811 Re: E-Mail Messages18 philipmApr 4 ,
16:21Re: ONR-II Proposal19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:0925 shalom!20
llaufmanApr 5 , 10:19376 A New R-2521 roman@rosa.kiev.ua Apr 6 , 09:498
Succesful recive you22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:4913where are you23
llaufman Apr 6 , 11:437 Romanenko E-mail 24 llaufmanApr 6 , 12:16
5 Re: fyi 25 marnie@ccwf.cc.utexas.edu 6 , 16:17 8 Re: shalom!26
marnie@ccwf.cc.utexas.edu6 , 16:273 Re: shalom!27 lovell_jones@gyn.mda.uth.tn6 ,
16:3430NIEHS28 marnie@ccwf.cc.utexas.edu6 , 16:483 lunch friday 29
pybw773@utxvm.cc.utexas.edu6 , 16:54 7 Reconnecting

```

_ [N]ext Scree

```

[R]eadXFrom: roman@rosa.kiev.ua
Subject: Succesful recive you message .....
To: arminw@bcm.tmc.eduFrom:Prof.Anatoly Ye.Romanenko To: Dr. Armin
WeinbergDirector General,ResearchBaylor College of MedicineCenter for Radiation
MedicineMethodist HospitalAcademy of Medical SciencesHouston, Texas, USAof Ukraine,
Melnikova str.,53E-MAIL: arminw@bcm.tmc.edu254050 KIEV UKRAINEE-MAIL:
roman%rosa.kiev.ua@relay.ua.netDear Armin,We have received your E-mail letter.
Today we are sending to youour invitation.Sincerely
yours,6,April,1994Anatoly.Ye.Romanenkomore:

```

```

+-----+
| [R]ead _ [D]elete _ [P]repare Response _ [F]orward message|
| _ [C]urrent-List _ [N]ext Screen _ [Q]uit Archived Listing |
|=====|
|SenderDateLines  Subject:|
|=====|
|_17 llaufman Apr 4 , 12:18 11 Re: E-Mail Messages |
|_18 philipm Apr 4 , 16:21 2 Re: ONR-II Proposal |
|_19 marnie@ccwf.cc.utexas.edu Apr 5 , 19:09 25 shalom!|

```

```

| _20 llaufman                Apr 5 , 10:19      376 A New R-25 |
| X21 roman@rosa.kiev.ua      Apr 6 , 09:49 18 Succeful recive you |
| _22 <@sequent.kiae.su,@ausch.uu Apr 6 , 09:49 13 Re: where are you|
| _23 llaufmanApr 6 , 11:43 17 Romanenko E-mail|
| _24 llaufman                Apr 6 , 12:16 5 Re: fyi|
| _25 marnie@ccwf.cc.utexas.edu Apr 6 , 16:17 8 Re: shalom!|
| _26 marnie@ccwf.cc.utexas.edu Apr 6 , 16:27      13 Re: shalom! |
| _27 lovell_jones@gyn.mda.uth.tm Apr 6 , 16:34 30 Re: NIEHS|
| _28 marnie@ccwf.cc.utexas.edu Apr 6 , 16:48      23 lunch friday|
| _29 pybw773@utxvm.cc.utexas.edu Apr 6 , 16:54      7 Reconnecting|
|
|
|
| Press Return key at desired seletion or corresponding letter|
+-----+
[R]ead_ [Q]uit                                04/06/94      10:26 PM

```

EZ Mail Services

=====

```

_ [R]ead Mail                                _ [S]end Mail
_ [M]ailing List & Alias                      _ [Q]uit

```

Enter key at desired selec

```

X          Send Mail      =====          _ [C]ompose Message _
[L]ist Unmailed Messages  _ [Q]uitpress corresponding
letterX+-----+

```

+| Please Enter|| Recipient:

```

_____|
_____|
_____|
_____|
      ||Subject:
      ||Cc:
      ||Bcc:

```

```

|+-----+roman
enkoAlexandra Bondarphiol      Invalid User Identification
      Press Any Key to Continue:
      Bcc:

```

```

|+-----+phill
aufman  PICO 1.6                New Buffer
^G Get Help ^O WriteOut ^R Read File^Y Prev Pg ^K Del Line ^C Cur Pos ^X Exit
^J Justify ^W Where is ^V Next Pg ^U UnDel Lin^T To Spell [ New file ]  PICO 1.6
      File: /tmp/MSGEAAa07006                PICO 1.6
      File: /tmp/MSGEAAa07006                Modified DearAnatolyi,Wejustfin

```

IwantedtotellyouhowpleasedwearewiththetimewehavehadwithAlexanAlexandra.Shemadegreatp
rogressi

duringherstayhereinHouston.EveryoneEveryonewasmostimpressedwithknowledgeofgeneticsand
dthededicationshe
shehastoherresearch.Wearelookingforwardtomanyyearsofcollaboratiocollaborationbetween
herandhernewcolleagues(especiallyPhilMcCarthyand
andJanSmith).WearesendingherbackwithsOMEMaterialstohelpstarther
herworkwithFISH.Iwilltakehertotheairporttomorrowtoseeheroff.off.Thankyouonceagainfor
agreeingtoletherspendthistimewithus.Itl lookforwardtovisitn
ingwithyouinthefuture.Sincerely,Arminhwith knowledge of genetics and the
dedicationewith knowledge of genetics and the dedicationrwith knowledge of genetics
and the dedication with knowledge of genetics and the dedicationwith knowledge of
genetics and the dedication with knowledge of genetics and the dedication with
knowledge of genetics and the dedication with knowledge of genetics and the
dedication knowledge of genetics and the dedicationh knowledge of genetics and the
dedicatione knowledge of genetics and the dedicationr knowledge of genetics and the
dedicationModified buffer: Save before leaving (y/n)?

YesC Cancel

^T To

Files

File Name to write :

/tmp/MSGEAAa07006[Writing...]

Wrote 16 lines]+-----+|||||||_ [M]ail Message|_

[I]nset File to Message ||_ [S]ave Message||_ [C]ancel

Message|||||+-----+X

Are

you sure[y/n]?

ySendingMail--PleasWait

Message successfully mailed

Press Any Key to Continue:

+-----+

|04/06/94 10:33 PM|

||

||

||

```
| |  
|  
| |  
Send Mail |  
===== |  
  
|  
_ [C]ompose Message |  
_ [L]ist Unmailed Messages|  
_ [Q]uit |  
  
|  
|  
|  
|  
|  
|  
|  
|  
| Press Enter key at desired selection or press corresponding letter|  
+-----XEZ  
Mail Services===== _ [R]ead Mail_ [S]end Mail _ [M]ailing  
List & Alias _ [Q]uit corresponding letter X_ Exiting --- Please  
Wait Today is: Wed Apr 6 22:33:40 1994
```

TABLE OF CHOICES

```
Alter Configuration ..... A
Connect to Other Services .... C
Directory Service ..... D
File Management ..... F
Electronic Mail ..... M
Access USENET ..... N
Change your password ..... P
Transfer Files ..... T
View (Display) a File ..... V

Quit ..... Q
```

Enter your choice: q

Exiting.

NO CARRIER

====> Disconnected 10:43pm Wednesday, April 06, 1994

pc

ENTER ANSWER NUMBER-->5

ENTER TI (TITLE ONLY), S (SHORT FORMAT), M (MEDIUM FORMAT), L (LONG FORMAT)
TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1

ENTER DOCUMENT NUMBERS--> all

1

AN 93141293. 93044.

AU Powell-E-C. Tanz-R-R.

IN Division of General Academic and Emergency Pediatrics, Children's
Memorial Hospital, Chicago, IL 60614.

TI Comparison of childhood burns associated with use of microwave ovens
and conventional stoves.

SO Pediatrics. 1993 Feb. 91(2). P 344-9.

JT PEDIATRICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB To identify the incidence, type, and severity of burns associated
with microwave oven (MW) use and to compare MW-associated burns with
those associated with use of conventional stoves, we conducted a
review of a national data base. Data were obtained from the US
Consumer Product Safety Commission Injury Information *Clearinghouse*
for 1986 through 1990 concerning burn injuries to children (0 to 19
years). There were an estimated 5160 burns associated with MW use.
The mean age was 7.6 years (median, 6 years); 25% of burns were to
children younger than 36 months old. Fifty-eight percent involved
females. Most MW burns were scalds (95%); 16% of these scalds were
from exploding eggs or other food. No MW burn involved a body
surface area greater than 25% and no patient required hospital
admission. Microwave oven burns were compared with stove burns.
There were an estimated 41198 stove-associated burns to children.
The mean age was 5.8 years; the median was 3 years. Forty-five
percent of burns were to children younger than 36 months old; 55%
were to males. Most stove burns (74%) were thermal; 7% involved a
body surface area greater than 25%. Five percent of children with
stove burns required hospital admission. We conclude that (1) burns
to children associated with MW use are less frequent and less severe
than stove burns; (2) MW burns predominantly affect females; and (3)
burn prevention efforts should emphasize the hazards of stoves, which
vastly exceed those of MWs. Author-abstract.

MJ BURNS: epidemiology (ep). COOKERY: instrumentation (is).
MICROWAVES: adverse-effects (ae).

MN ABSTRACTING-AND-INDEXING: standards (st). ADOLESCENCE. AGE-FACTORS.
BODY-SURFACE-AREA. BURNS: etiology (et). CHILD. CHILD-PRESCHOOL.
COMPARATIVE-STUDY. CONSUMER-PRODUCT-SAFETY. DATABASES-FACTUAL.
FEMALE. HUMAN. INCIDENCE. INFANT. INFANT-NEWBORN. MALE.
POPULATION-SURVEILLANCE. RETROSPECTIVE-STUDIES.
SEVERITY-OF-ILLNESS-INDEX. SEX-FACTORS. UNITED-STATES: epidemiology
(ep).

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1993.

IS 0031-4005. OXV.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930225.

2

AN 93049073. 93021.
AU McCann-M-F.
IN Center for Safety in the Arts, New York, New York 10038.
TI Occupational and environmental hazards in art.
SO Environ-Res. 1992 Oct. 59(1). P 139-44.
JT ENVIRONMENTAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Artists and craftspeople, art teachers, hobbyists, and children often use art materials containing toxic chemicals without suitable precautions and often without the knowledge that their art materials are hazardous. The Center for Safety in the Arts, a national *clearinghouse* for research and education on hazards in the visual and performing arts, answers telephoned and written inquiries on art hazards, distributes publications, publishes a newsletter, and offers educational programs and consultative services to arts organizations. Author-abstract.
MJ ENVIRONMENTAL-HEALTH. HAZARDOUS-SUBSTANCES: adverse-effects (ae). MEDICINE-IN-ART. OCCUPATIONAL-DISEASES: prevention-and-control (pc).
MN ENVIRONMENTAL-EXPOSURE: adverse-effects (ae). HUMAN. INFORMATION-SERVICES. OCCUPATIONAL-EXPOSURE: adverse-effects (ae).
RN 0 -- Hazardous-Substances.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0013-9351. EI2.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921222.

3

AN 93028974. 93011.
AU Reddick-L-P.
TI Sidney Wolfe, David Kessler, and the FDA: medical *clearinghouse* letter:.
SO Plast-Reconstr-Surg. 1992 Nov. 90(5). P 932.
JT PLASTIC AND RECONSTRUCTIVE SURGERY.
PT LETTER (LET).
LG English (EN).
MJ IMPLANTS-ARTIFICIAL. UNITED-STATES-FOOD-AND-DRUG-ADMINISTRATION.
MN FEMALE. HUMAN. MAMMAPLASTY. SILICONES. UNITED-STATES.
RN 0 -- Silicones.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0032-1052. P9S.

CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921119.

4

AN 92365208. 92000.
AU Davis-D-A. Thomson-M-A. Oxman-A-D. Haynes-R-B.
IN Department of Family Medicine, School of Occupational Therapy and
Physiotherapy, Faculty of Health Sciences, McMaster University,
Hamilton, Ontario, Canada.
TI Evidence for the effectiveness of CME. A review of 50 randomized
controlled trials `see comments:.
CM Comment in: JAMA 1992 Sep 2;268(9):1135-6.
SO JAMA. 1992 Sep 2. 268(9). P 1111-7.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB OBJECTIVE--To assess the impact of diverse continuing medical
education (CME) interventions on physician performance and health
care outcomes. DATA SOURCES--Using continuing medical education and
related phrases, we performed regular searches of the indexed
literature (MEDLINE, Social Science Index, the National Technical
Information Service, and Educational Research Information
Clearinghouse) from 1975 through 1991. In addition, for these years,
we used manual searches, key informants, and requests to authors to
locate other indexed articles and the nonindexed literature of adult
and continuing professional education. STUDY SELECTION--From the
resulting database we selected studies that met the following
criteria: randomized controlled trials; educational programs,
activities, or other interventions; studies that included 50% or more
physicians; follow-up assessments of at least 75% of study subjects;
and objective assessments of either physician performance or health
care outcomes. DATA EXTRACTION--Studies were reviewed for data
related to physician specialty and setting. Continuing medical
education interventions were classified by their mode(s) of activity
as being predisposing, enabling, or facilitating. Using the
statistical tests supplied by the original investigators, physician
performance outcomes and patient outcomes were classified as
positive, negative, or inconclusive. DATA SYNTHESIS--We located 777
CME studies, of which 50 met all criteria. Thirty-two of these
analyzed physician performance; seven evaluated patient outcomes; 11
examined both measures. The majority of the 43 studies of physician
performance showed positive results in some important measures of
resource utilization, counseling strategies, and preventive medicine.
Of the 18 studies of health care outcomes, eight demonstrated
positive changes in patients' health care outcomes.
CONCLUSION--Broadly defined CME interventions using practice-enabling
or reinforcing strategies consistently improve physician performance
and, in some instances, health care outcomes. Author-abstract.
MJ CLINICAL-COMPETENCE: statistics-and-numerical-data (sn).

EDUCATION-MEDICAL-CONTINUING. TREATMENT-OUTCOME.
 MN DATABASES-FACTUAL. EDUCATION-MEDICAL-CONTINUING: standards (st).
 MEDLINE. QUALITY-ASSURANCE-HEALTH-CARE.
 RANDOMIZED-CONTROLLED-TRIALS. SPECIALTIES-MEDICAL:
 statistics-and-numerical-data (sn). SUPPORT-NON-U-S-GOVT.
 UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1992.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9211.
 ND ENTRY DATE: 920917.

5

AN 92336662. 92000.
 TI Conjoined twins--an epidemiological study based on 312 cases. The
 International *Clearinghouse* for Birth Defects Monitoring Systems.
 SO Acta-Genet-Med-Gemello (Roma). 1991. 40(3-4). P 325-35.
 JT ACTA GENETICAE MEDICAE ET GEMELLOLOGIAE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Data on conjoined twins have been collected from 14 different
 malformation monitoring programs around the world. Among over 28
 million births, 312 cases were identified. After considering
 underascertainment in one large program, the best estimate of the
 incidence based on the sum of induced abortions and births is 1.3 per
 100,000 births. The distribution according to type of twinning, the
 sex distribution (39% males) and the stillbirth rate (47%) are
 presented. The presence of malformations not directly related to the
 area of fusion is discussed. In three women, thyroid disease was
 present and five women had been treated for infertility before
 conception. Author-abstract.
 MJ TWINS-CONJOINED.
 MN ABNORMALITIES-MULTIPLE: epidemiology (ep), pathology (pa).
 EPIDEMIOLOGIC-METHODS. FEMALE. FETAL-DEATH: epidemiology (ep).
 HUMAN. INFANT-NEWBORN. MALE. PREGNANCY. REGISTRIES. SEX-RATIO.
 TWINS-CONJOINED: pathology (pa).
 SB Priority Journals (M).
 YR 1991.
 IS 0001-5660. 0P6.
 CP ITALY (Z1.542.489).
 IM 9210.
 ND ENTRY DATE: 920819.

6

AN 92318621. 92000.
 AU Smith-D-W. Redican-K-J. Olsen-L-K.
 IN Dept. of Health and Human Performance, University of Houston, TX
 77204.

TI The longevity of Growing Healthy: an analysis of the eight original sites implementing the School Health Curriculum Project.
 SO J-Sch-Health. 1992 Mar. 62(3). P 83-7.
 JT JOURNAL OF SCHOOL HEALTH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The status of the Growing Healthy curriculum (School Health Curriculum Project `SHCP:) was examined in the eight sites selected in 1969 by the National *Clearinghouse* on Smoking and Health to receive funded training and implementation support. A contact person from each site completed and returned a questionnaire pertaining to the district's continued implementation (institutionalization) of the SHCP. Most districts had not continued to implement the program. Reasons for discontinuation included loss of the "program champion" and insufficient administrative leadership. Districts continuing to implement the program generally were smaller in size, and employed a part-time coordinator for the SHCP. Recommendations for institutionalizing future instruction programs include identifying replacement program coordinators and other administrators to ensure continuity and support for the program over time, and conducting process and impact evaluations on program effects. Author-abstract.
 MJ CURRICULUM. HEALTH-EDUCATION. SCHOOLS.
 MN HEALTH-PLAN-IMPLEMENTATION. HEALTH-PROMOTION. HUMAN. LEADERSHIP. QUESTIONNAIRES. UNITED-STATES.
 SB Priority Journals (M). Nursing Journals (N).
 YR 1992.
 IS 0022-4391. K13.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9210.
 ND ENTRY DATE: 920804.

7

AN 92264384. 92000.
 AU Robinson-J-C. Paxman-D-G.
 IN Center for Occupational and Environmental Health, School of Public Health, University of California, Berkeley 94720.
 TI The role of threshold limit values in U.S. air pollution policy.
 SO Am-J-Ind-Med. 1992. 21(3). P 383-96.
 JT AMERICAN JOURNAL OF INDUSTRIAL MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This paper analyzes the role of threshold limit values (TLVs) in national air pollution policy during the 1980s, a period in which the Environmental Protection Agency (EPA) sought to delegate to individual states the authority to evaluate and regulate airborne toxic substances. We focus on 20 carcinogens and 11 substances with non-genotoxic health effects that were regulated by local air toxics programs using TLVs. Data from EPA's National Air Toxics Information *Clearinghouse* indicate that maximum TLV-based Ambient Air Level guidelines (AALs) frequently exceed minimum TLV-based AALs by a

factor of greater than 1,000. Cancer potency data from EPA's Integrated Risk Information System suggest significant risks remain at TLV-based AALs. Cancer risks at the median TLV-based AAL exceed 1,000 cases per million exposed persons for cadmium (1,040), nickel and its compounds (1,420), propylene oxide (1,550), coke oven emissions (1,860), benzene (2,500), arsenic and its compounds (7,300), N-nitrosodimethylamine (21,000), asbestos (21,500), and ethylene dibromide (55,000). We also summarize published studies that report non-genotoxic health effects in workers exposed at levels near the TLV for 11 substances whose AALs were based on TLVs. Contrary to the assumption frequently made by state air toxics program, TLVs cannot be taken to represent no observed effect levels (NOELs) for regulatory purposes. Author-abstract.

MJ AIR-POLLUTION: legislation-and-jurisprudence (lj).
MAXIMUM-PERMISSIBLE-EXPOSURE-LEVEL. PUBLIC-POLICY.
MN ACRYLONITRILE. AIR-POLLUTION: adverse-effects (ae), analysis (an).
CARCINOGENS. ENVIRONMENTAL-EXPOSURE: adverse-effects (ae). HUMAN.
NEOPLASMS: chemically-induced (ci), prevention-and-control (pc).
OCCUPATIONAL-EXPOSURE: adverse-effects (ae). STATE-GOVERNMENT.
SUPPORT-NON-U-S-GOVT. UNITED-STATES.
UNITED-STATES-ENVIRONMENTAL-PROTECTION-AGENCY.
UNITED-STATES-OCCUPATIONAL-SAFETY-AND-HEALTH-ADMINISTRATION.
RN 0 -- Carcinogens.
107-13-1 -- Acrylonitrile.
SB Priority Journals (M).
YR 1992.
IS 0271-3586. 3IN.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920615.

8

AN 92226028. 92000.
AU Curtis-S-E. Stricklin-W-R.
IN University of Illinois, Urbana 61801.
TI The importance of animal cognition in agricultural animal production systems: an overview.
SO J-Anim-Sci. 1991 Dec. 69(12). P 5001-7.
JT JOURNAL OF ANIMAL SCIENCE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB To describe and then fulfill agricultural animals' needs, we must learn more about their fundamental psychological and behavioral processes. How does this animal feel? Is that animal suffering? Will we ever be able to know these things? Scientists specializing in animal cognition say that there are numerous problems but that they can be overcome. Recognition by scientists of the notion of animal awareness has been increasing in recent years, because of the work of Griffin and others. Feeling, thinking, remembering, and imagining are cognitive processes that are factors in the economic

and humane production of agricultural animals. It has been observed that the animal welfare debate depends on two controversial questions: Do animals have subjective feelings? If they do, can we find indicators that reveal them? Here, indirect behavioral analysis approaches must be taken. Moreover, the linear additivity of several stressor effects on a variety of animal traits suggests that some single phenomenon is acting as a "clearinghouse" for many or all of the stresses acting on an animal at any given time, and this phenomenon might be psychological stress. Specific situations animals may encounter in agricultural production settings are discussed with respect to the animals' subjective feelings.

Author-abstract. 43 Refs.

MJ AGRICULTURE. ANIMAL-WELFARE. ANIMALS: psychology (px).
BEHAVIOR-ANIMAL. COGNITION.

MN ANIMAL. HEAT. HELPLESSNESS-LEARNED. HOUSING-ANIMAL: standards (st). IMMOBILIZATION. NESTING-BEHAVIOR. PAIN: psychology (px),
veterinary (ve).

SB Priority Journals (M).

YR 1991.

IS 0021-8812. HC7.

CP UNITED-STATES (Z1.107.567.875).

IM 9207.

ND ENTRY DATE: 920521.

9

AN 92066705. 92000.

AU Sinnock-P. Murphy-P-E. Baker-T-G. Bates-R.

IN National AIDS Information and Education Program, Centers for Disease
Control, Atlanta, GA 30333.

TI First 3 years of the National AIDS *Clearinghouse.*

SO Public-Health-Rep. 1991 Nov-Dec. 106(6). P 634-9.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The National AIDS *Clearinghouse* is an information service provided by the Centers for Disease Control. The *Clearinghouse* was established in 1987 to respond to increasing numbers of public and professional inquiries, to disseminate accurate information, and to make referrals to local sources of information and assistance. Four data bases--Resources and Services Database containing information about more than 16,000 organizations that provide counseling and testing for human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) and other education and prevention services; Educational Materials Database containing more than 8,000 individual, hard-to-find educational materials; Funding Database; and the AIDS Clinical Trial Information Service (ACTIS) Database--are searched by information specialists to respond to more than 45,000 requests annually for information from a variety of health professionals, organizations, and the general public. Between 1987 and 1991, the *Clearinghouse* disseminated more than 60 million copies of

publications related to HIV and AIDS. Information and education remain the most critical tools for the prevention of HIV infection, and the National AIDS *Clearinghouse* provides an essential element for the dissemination of education and prevention information.

Author-abstract.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).
INFORMATION-SERVICES.

MN CENTERS-FOR-DISEASE-CONTROL-U-S. DATABASES-BIBLIOGRAPHIC.
HEALTH-EDUCATION. HEALTH-OCCUPATIONS. HEALTH-SERVICES. HOTLINES.
HUMAN. INFORMATION-SERVICES: organization-and-administration (og).
QUALITY-CONTROL. REFERRAL-AND-CONSULTATION. TEACHING-MATERIALS.
UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0033-3549. QJA.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920102.

10

AN 92066704. 92000.

AU Waller-R-R. Lisella-L-W.

IN Centers for Disease Control, Atlanta, GA 30333.

TI National AIDS Hotline: HIV and AIDS information service through a
toll-free telephone system.

SO Public-Health-Rep. 1991 Nov-Dec. 106(6). P 628-34.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The National AIDS Hotline (NAH), a service of the Centers for Disease Control (CDC), is an information resource for the population of the United States, its Territories, and Puerto Rico concerning the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS). Since its inception in 1983, NAH has grown to be the world's largest health-related hotline service. NAH has received an average of more than 1.4 million calls per year since October 1987. Services of NAH include responding to the public's questions about HIV and AIDS and providing referrals to State and local resources. All services, including HIV and AIDS publications, are provided free of charge. The public contacts NAH 24 hours a day, 7 days a week, through a toll-free telephone system. Services are available to English-speaking, Spanish-speaking, and deaf populations. Each service has its own telephone number--English-speaking, 1-800-342-2437; Spanish-speaking, 1-800-344-7432; TTY service for the deaf, 1-800-243-7889. NAH employs approximately 170 information specialists to answer calls. The facility uses modern telecommunications technology to effectively manage and direct calls to 43 work stations. Each work station is supported by a personal computer that allows access to CDC's National AIDS *Clearinghouse* data bases for referrals and publication ordering. NAH ensures that

information provided to the public is current, accurate, and consistent with approved government policy. Quality assurance reviews address call management, delivery of information, and content of calls. Author-abstract.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).
HOTLINES. HIV-INFECTIONS: prevention-and-control (pc).
REFERRAL-AND-CONSULTATION.
MN CENTERS-FOR-DISEASE-CONTROL-U-S. FEMALE. HEALTH-SERVICES. HUMAN.
INFORMATION-SERVICES. MALE. TELECOMMUNICATIONS. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0033-3549. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920102.

11

AN 91368799. 91000.
AU Meissen-G-J. Gleason-D-F. Embree-M-G.
IN Department of Psychology, Wichita State University, KS 67208.
TI An assessment of the needs of mutual-help groups.
SO Am-J-Community-Psychol. 1991 Jun. 19(3). P 427-42.
JT AMERICAN JOURNAL OF COMMUNITY PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Assessed the needs of mutual-help groups in relation to how self-help
clearinghouses can best assist. Most important problems centered on
member involvement, attendance and recruitment, lack of public
awareness, and finances. Most important needs were for greater
public education and more referrals to groups. Significant
differences were found across different types of organizational
affiliation for the problems of recruitment of members, lack of
public awareness, and problem members. The dynamic nature of
mutual-help groups may naturally produce many of the turnover,
attendance, and involvement problems which in turn generates the
ongoing need to recruit new members in part through greater public
awareness. Many of the goals and needs of mutual-help groups,
coupled with the large number of group members, may lead to
significant social and policy change in health and mental health
services. Author-abstract.
MJ PROBLEM-SOLVING. SELF-HELP-GROUPS. SOCIAL-SUPPORT.
MN GOALS. HUMAN. LEADERSHIP. ORGANIZATIONAL-AFFILIATION.
PATIENT-EDUCATION. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1991.
IS 0091-0562. 3FV.
CP UNITED-STATES (Z1.107.567.875).
IM 9112.
ND ENTRY DATE: 911011.

12

AN 91358524. 91000.
AU Jenkins-H-M. Stanwick-R-S.
IN Winnipeg Children's Hospital, Manitoba, Canada.
TI A survey of pediatric discharge educational programs in North American burn units.
SO J-Burn-Care-Rehabil. 1991 May-Jun. 12(3). P 243-8.
JT JOURNAL OF BURN CARE AND REHABILITATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In this study we contacted all of the 149 major North American burn facilities that treat children. The survey determined topics covered in discharge teaching, personnel administering the programs, methods used, and obstacles encountered. The subjects addressed and the personnel involved have changed little from a decade ago. Unfortunately, one fourth of the centers still do not deal with emotional aspects of burns in their discharge programs. For program delivery, videotape is becoming an increasingly accepted teaching method. Eighty-five percent of burn facilities experienced barriers to patient education at discharge, with more than half reporting three or more difficulties. The most common difficulty was time constraints (50%), followed by language and sociocultural barriers (41%), lack of receptivity by clientele (39%), lack of educational materials and planning (26%), and inadequate funding (25%). Some of these problems might be alleviated by the establishment of a *clearinghouse* for burn educational materials. Author-abstract.
MJ BURN-UNITS: statistics-and-numerical-data (sn). BURNS: rehabilitation(rh). PATIENT-DISCHARGE: statistics-and-numerical-data (sn). PATIENT-EDUCATION: methods (mt).
MN ADOLESCENCE. ALLIED-HEALTH-PERSONNEL: utilization (ut). BURNS: psychology (px). CHILD. CULTURE. HUMAN. NORTH-AMERICA. PATIENT-EDUCATION: statistics-and-numerical-data (sn). QUESTIONNAIRES. SUPPORT-NON-U-S-GOVT. TEACHING-MATERIALS.
SB Priority Journals (M). Nursing Journals (N).
YR 1991.
IS 0273-8481. HLK.
CP UNITED-STATES (Z1.107.567.875).
IM 9112.
ND ENTRY DATE: 911007.

13

AN 91245464. 91000.
TI An update of the classification and diagnostic criteria of oral lesions in HIV infection. *EEC-clearinghouse* on Oral Problems Related to HIV Infection and WHO Collaborating Centre on Oral Manifestations of the Human Immunodeficiency Virus `published erratum appears in J Oral Pathol Med 1991 Jul;20(6):304:.
SO J-Oral-Pathol-Med. 1991 Mar. 20(3). P 97-100.
JT JOURNAL OF ORAL PATHOLOGY AND MEDICINE.
PT JOURNAL-ARTICLE (ART).

LG English (EN).
 MJ HIV-INFECTIONS: complications (co). MOUTH-DISEASES: complications (co).
 MN CANDIDIASIS-ORAL: complications (co). EPSTEIN-BARR-VIRUS. GINGIVITIS: complications (co). HUMAN. LEUKOPLAKIA-ORAL: complications (co). LYMPHOMA-NON-HODGKINS: etiology (et). MOUTH-DISEASES: classification (cl), diagnosis (di). MOUTH-NEOPLASMS: etiology (et). PERIODONTITIS: complications (co). SARCOMA-KAPOSI: etiology (et). TUMOR-VIRUS-INFECTIONS: complications (co).
 SB Priority Journals (M). Dental Journals (D).
 YR 1991.
 IS 0904-2512. JRF.
 CP DENMARK (Z1.542.808.224).
 IM 9109.
 ND ENTRY DATE: 910703.
 LAST REVISION DATE: 911016.

14

AN 91212547. 91000.
 AU Roper-W-L.
 IN Centers for Disease Control, Public Health Service, Atlanta, GA 30333.
 TI Current approaches to prevention of HIV infections.
 SO Public-Health-Rep. 1991 Mar-Apr. 106(2). P 111-5.
 JT PUBLIC HEALTH REPORTS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The HIV education and prevention strategy of the Centers for Disease Control has three principal components: (a) public information and education, (b) education for school-aged populations, and (c) risk reduction education and individual counseling and testing services for people at increased risk of HIV infection. The most visible components of the public information and education programs are the National Public Information Campaign ("America Responds to AIDS"), the National AIDS Hotline system, and the National AIDS Information *Clearinghouse.* Components of the youth education program consist of funding for national health and education organizations, funding for State and local education departments, training, surveillance of education efforts, and evaluation. Counseling and testing has entailed performance of approximately 2,500,000 HIV antibody tests with pre- and post-test counseling, notification and counseling of sexual and needle-sharing partners of those infected with HIV, and targeted risk reduction education through community-based organizations. Over time, these activities will continue to evolve and become more effective. Author-abstract.
 MJ HIV-INFECTIONS: prevention-and-control (pc).
 MN ADOLESCENCE. CENTERS-FOR-DISEASE-CONTROL-U-S. CONTACT-TRACING. COUNSELING. HEALTH-EDUCATION. HUMAN. RISK-FACTORS. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.
IS 0033-3549. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910529.
LAST REVISION DATE: 920831.
CLASS UPDATE: 91.

15

AN 91112188. 91000.
TI National AIDS Information *Clearinghouse* `news:.
SO DICP. 1990 Nov. 24(11). P 1152.
JT DICP.
PT NEWS (NEW).
LG English (EN).
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. INFORMATION-SERVICES.
INFORMATION-STORAGE-AND-RETRIEVAL.
MN CENTERS-FOR-DISEASE-CONTROL-U-S. HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 1042-9611. XS4.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910228.

16

AN 91111412. 91000.
AU Lee-S-D.
IN Environmental Criteria and Assessment Office U.S. Environmental
Protection Agency Research Triangle Park, NC 27711.
TI Risk assessment and risk management of noncriteria pollutants.
SO Toxicol-Ind-Health. 1990 Oct. 6(5). P 245-55.
JT TOXICOLOGY AND INDUSTRIAL HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Noncriteria air pollutants are synonymous with hazardous air
pollutants (HAPs), air toxics or toxic air pollutants (TAPs). The
term noncriteria pollutants refers to all air pollutants except for
the criteria pollutants (SOx, PM, NOx, CO, O3, and Pb). Air toxics
are pervasive in our environment worldwide in varying degrees. Uses
of these chemicals are varied and numerous; their emissions are
ubiquitous, and they include organic compounds such as chlorinated
hydrocarbons, dioxins, aldehydes, polynuclear aromatic hydrocarbons,
and heavy metals such as chromium, nickel, cadmium, and mercury.
There are more than 70,000 chemicals that are in use commercially in
the United States, and we know relatively little about their ambient
concentrations, persistence, transport and transformation as well as
their effects on health and the environment, many of which take
decades to emerge. The United States Environmental Protection
Agency, under the authority of Section 112 of the Clean Air Act, is

mandated to regulate any air pollutant which, in the Administrator's judgment, "causes, or contributes to, air pollution which may reasonable be anticipated to result in an increase in serious irreversible or incapacitating reversible illness." For such regulatory decision-making, EPA's Office of Health and Environmental Assessment (OHEA) provides scientific assessment of health effects for potentially hazardous air pollutants. In accordance with risk assessment guidelines developed by OHEA over the years, Health Assessment Documents (HADs) containing risk assessment information were prepared and were subjected to critical review and careful revision to produce Final Draft HADs which serve as scientific databases for regulatory decision-making by the Office of Air Quality Planning and Standards (OAQPS) in its risk management process. EPA developed data-bases such as the Integrated Risk Information System (IRIS) and the National Air Toxics Information *Clearinghouse* (NATICH) and a technical assistance response system called the Air Risk Information support Center (AIR RISC), in addition, to help in implementation of the National Air Toxics Program by state and local regulators. Author-abstract.

MJ AIR-POLLUTANTS-ENVIRONMENTAL: adverse-effects (ae).
HAZARDOUS-SUBSTANCES: adverse-effects (ae).
MN DECISION-MAKING. DOCUMENTATION. HUMAN. RISK. UNITED-STATES.
UNITED-STATES-ENVIRONMENTAL-PROTECTION-AGENCY.
RN 0 -- Air-Pollutants-Environmental.
0 -- Hazardous-Substances.
SB Priority Journals (M).
YR 1990.
IS 0748-2337. VWS.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910222.
CLASS UPDATE: 92.

17

AN 91111076. 91000.
AU Roth-A-E.
IN University of Pittsburgh, PA 15260.
TI New physicians: a natural experiment in market organization.
SO Science. 1990 Dec 14. 250(4987). P 1524-8.
JT SCIENCE.
PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
LG English (EN).
AB The National Resident Matching Program is a centralized *clearinghouse* through which new medical graduates in the United States obtain their first positions. The history of this market, from the market failures that the centralized system was designed to address, to the present, is discussed, and a hypothesis about the behavior of such markets is presented. New evidence is then presented from a set of similar centralized markets in the United Kingdom. Because some of these latter markets have failed, while others have succeeded, they

provide a natural experiment that permits the hypothesis to be tested. The new evidence also suggests directions in which modifications of existing procedures might be considered.

Author-abstract.

MJ INFORMATION-CENTERS: history (hi). INTERNSHIP-AND-RESIDENCY: organization-and-administration (og).PERSONNEL-STAFFING-AND-SCHEDULING-INFORMATION-SYSTEMS.
MN ALGORITHMS. ECONOMIC-COMPETITION. EMPLOYMENT. GREAT-BRITAIN. HISTORY-OF-MEDICINE-20TH-CENT. HOSPITALS. INTERNSHIP-AND-RESIDENCY: history (hi). PROGRAM-EVALUATION. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S. UNITED-STATES.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0036-8075. UJ7.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910225.

18

AN 91041601. 91000.
AU Jensen-J-E.
TI Centralized credentialing: state-of-the-art confidential *clearinghouse.*
SO Md-Med-J. 1990 Sep. 39(9). P 857-9.
JT MARYLAND MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CREDENTIALING. MEDICAL-STAFF-PRIVILEGES: standards (st). ORGANIZATIONS.
MN HUMAN. INFORMATION-SERVICES: organization-and-administration (og). MARYLAND. PHYSICIANS.
YR 1990.
IS 0886-0572. MAN.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901204.

19

AN 91012874. 91000.
TI From the Centers for Disease Control. National AIDS Information *Clearinghouse.*
SO JAMA. 1990 Oct 24-31. 264(16). P 2060.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. INFORMATION-SERVICES.
MN CENTERS-FOR-DISEASE-CONTROL-U-S. HEALTH-EDUCATION. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1990.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9101.
ND ENTRY DATE: 901115.

20

AN 90374239. 90000.
AU Rizzolo-M-A.
TI Factors influencing the development and use of interactive video in nursing education. A Delphi study.
SO Comput-Nurs. 1990 Jul-Aug. 8(4). P 151-9.
JT COMPUTERS IN NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The purpose of this study was to identify factors impeding development and use of interactive video (IAV) in nursing education in order to specify actions that would facilitate its development and use. Nurse educators with experience in development of IAV programs were defined as the experts, and a three-round Delphi study was conducted. Study findings revealed that participants were aware of obstacles to development and were able to suggest some ways to overcome them. Subjects clearly identified content they want in IAV programs, and were especially united on applications for simulations. They agreed on benefits of IAV for students, but were less certain about how it might affect faculty roles, and were undecided about measurable advantages of IAV. Conservative predictions were made about how evolving IAV technology might change the process of nurse education in the future. To promote IAV development and use the author recommends cooperative efforts between nurse educators and developers in the business sector and an educational thrust targeted for specific groups. Moving beyond existing nursing roles and institutional models, the author makes two major suggestions: establishment of a new nursing specialist, the nurse/instructional designer, and the creation of an information center staffed by these new specialists who will design and develop programs, provide education and consultation, maintain a *clearinghouse* for IAV programs, research, and technology, and take a leadership role in the integration of this powerful instructional delivery system into the entire health field. Author-abstract.
MJ COMMUNICATION. COMPUTER-ASSISTED-INSTRUCTION: trends (td).
DIFFUSION-OF-INNOVATION. EDUCATION-NURSING. VIDEO-RECORDING: trends (td). VIDEODISC-RECORDING: trends (td).
MN COMPUTER-ASSISTED-INSTRUCTION: methods (mt), utilization (ut).
DELPHI-TECHNIQUE. HUMAN. VIDEODISC-RECORDING: methods (mt), utilization (ut).
SB Nursing Journals (N).
YR 1990.
IS 0736-8593. CIN.
CP UNITED-STATES (Z1.107.567.875).

IM 9012.
ND ENTRY DATE: 901018.
CLASS UPDATE: 90.

21

AN 90351725. 90000.
AU LouLou-D.
TI The National AIDS Information *Clearinghouse* `news:.
SO AIDS-Educ-Prev. 1989 Fall. 1(3). P 253-5.
JT AIDS EDUCATION AND PREVENTION.
PT NEWS (NEW).
LG English (EN).
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. INFORMATION-SERVICES.
MN HUMAN. ONLINE-SYSTEMS. TEACHING-MATERIALS. UNITED-STATES.
SB Priority Journals (M).
YR 1989.
IS 0899-9546. AUY.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900927.
CLASS UPDATE: 91.

22

AN 90344111. 90000.
AU Calder-C-J. Kirby-R-L.
IN Department of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada.
TI Fatal wheelchair-related accidents in the United States.
SO Am-J-Phys-Med-Rehabil. 1990 Aug. 69(4). P 184-90.
JT AMERICAN JOURNAL OF PHYSICAL MEDICINE AND REHABILITATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Of the 3.3 of every 1000 persons in the United States who use a wheelchair, an estimated 3.3% per year have a serious wheelchair-related accident. Yet, only isolated case reports of fatal accidents have appeared. To obtain a better estimate of the incidence and nature of fatal accidents, a search was carried out of the death certificate database (1973-1987) of the National Information *Clearinghouse* of the Consumer Product Safety Commission; 770 wheelchair-related deaths were identified. The majority, 596 persons (77.4%), experienced a fall from their chairs or tipped over. Of 85 deaths (11%) caused by environmental factors, stairs were implicated in 51 (60.0%). Of 48 fatal burns (6.2%), 27 (57.3%) were related to smoking. Asphyxia owing to restraints occurred in 44 persons (5.7%) of all ages and caused 10 of the 17 deaths (58.8%) among persons 1-20 yr old. Wheelchair-related accidental death is uncommon (about 0.2% of serious accidents per year), but some types of accidents appear to be preventable. Author-abstract.
MJ ACCIDENTS: mortality (mo). WHEELCHAIRS.
MN ACCIDENTS: statistics-and-numerical-data (sn). ADOLESCENCE. ADULT.

AGE-FACTORS. AGED. AGED-80-AND-OVER. CHILD. CHILD-PRESCHOOL.
DEATH-CERTIFICATES. ENVIRONMENTAL-HEALTH. EPIDEMIOLOGIC-METHODS.
FEMALE. FRACTURES: epidemiology (ep), etiology (et). HUMAN.
INFANT. MALE. MIDDLE-AGE. SEX-FACTORS. SUPPORT-NON-U-S-GOVT.
UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.
IS 0894-9115. AJO.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900920.

23

AN 90211567. 90000.
AU Walker-A-R.
IN Department of Epidemiology, School of Hygiene and Public Health,
Johns Hopkins University, Baltimore, Maryland.
TI Fatal tapwater scald burns in the USA, 1979-86.
SO Burns. 1990 Feb. 16(1). P 49-52.
JT BURNS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Four hundred and fifty-nine fatal tapwater scald burn injuries
reported to the Injury Information *Clearinghouse* of the Consumer
Product Safety Commission from 1979 to 1986 were studied. Data
concerning the 459 deaths were abstracted from the death certificate
file maintained by the Clearing house. Risk estimates were derived,
using the resident population of the USA as of 1 July 1982 as the
midpoint population estimate. Over half the deaths occurred in those
over 75 years of age, while about one-fifth of the deaths occurred in
children younger than 5 years of age. The crude mortality rate was
approximately two deaths per million population over the 8-year
period studied. In all age groups, black-skinned people experienced
an approximate three-fold increase in risk (RR = 3.23, 95% CI: 2.87,
3.63). Among the elderly, males experienced an approximately 50 per
cent increase in risk (RR = 1.47, 95% CI: 1.26, 1.72). One of every
eight fatal injuries was sustained in a public building or
residential institution. Implications of the current findings in
terms of targetted prevention efforts are discussed.
Author-abstract.
MJ BURNS: mortality (mo). WATER-SUPPLY.
MN ACCIDENTS-HOME. AGE-FACTORS. AGED. BURNS: epidemiology (ep),
etiology (et). CHILD-PRESCHOOL. DEATH-CERTIFICATES. HUMAN.
SEX-FACTORS. TIME-FACTORS. UNITED-STATES: epidemiology (ep).
SB Priority Journals (M).
YR 1990.
IS 0305-4179. AFC.
CP ENGLAND (Z1.542.363.300).
IM 9007.
ND ENTRY DATE: 900517.

CLASS UPDATE: 90.

24

AN 90082764. 90000.
AU Bucholtz-J-D.
TI New 800 number for AIDS information *clearinghouse.*
SO Oncol-Nurs-Forum. 1989 Nov-Dec. 16(6). P 780.
JT ONCOLOGY NURSING FORUM.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).
HEALTH-EDUCATION. HOTLINES.
MN HUMAN.
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0190-535X. PAD.
CP UNITED-STATES (Z1.107.567.875).
IM 9003.
ND ENTRY DATE: 900125.

25

AN 90037767. 90000.
AU Grossman-D-J.
IN Department of Dermatology, University of Virginia Health Sciences
Center, Charlottesville 22908.
TI Public and professional educational materials on skin cancer.
SO J-Am-Acad-Dermatol. 1989 Nov. 21(5 Pt 1). P 1012-8.
JT JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In 1988, Dr. Thomas Jansen, then president of the American Academy of
Dermatology, established a Presidential Commission on Melanoma and
Non-Melanoma Skin Cancer, with Dr. Arthur Sober as commission
chairman. The Commission was directed to coordinate the Academy's
diverse public and professional educational and screening activities
related to skin cancer. Among the mandates of the Commission was the
organization of a *clearinghouse* of current educational materials on
skin cancer for health care providers and consumers. This
complication is considered to be especially significant now because
of increased effort by dermatologists to encourage physician visits
and routine patient self-examination for early detection of skin
cancer. The national and international campaigns to increase
awareness of the harmful effects of the sun have generated much
excellent educational information. Some audiovisual material,
notably slide sets, will be especially helpful to meet increasing
demand on dermatologists to present lectures to local consumer
groups. This listing should facilitate ordering of these materials.
Because of the lag time between preparation of this document and its
publication, cost and availability data may have changed. The

compilation will be updated periodically and printed in the Journal. The ongoing development of new educational materials requires continuous updating. It is hoped that readers who become aware of new relevant material will send this information to the author, in care of the Communications Division at the Academy offices in Evanston. International materials will be included in the next compilation. Author-abstract.

MJ HEALTH-EDUCATION. SKIN-NEOPLASMS. SUNLIGHT: adverse-effects (ae). TEACHING-MATERIALS.

MN EDUCATION-MEDICAL-CONTINUING. PATIENT-EDUCATION. SKIN-NEOPLASMS: etiology (et), pathology (pa), prevention-and-control (pc).

SB Priority Journals (M).

YR 1989.

IS 0190-9622. HVG.

CP UNITED-STATES (Z1.107.567.875).

IM 9002.

ND ENTRY DATE: 891207.

26

AN 89358566. 89000.

AU Merlob-P. Mogilner-B-M. Muhlbauer-B. Aitkin-I. Dulitzky-F.

IN Department of Neonatology, Beilinson Medical Center, Petah Tikva, Israel.

TI Time trends (1978-86) of anencephaly and spina bifida in four hospitals affiliated with the International *Clearinghouse:* a warning.

SO Isr-J-Med-Sci. 1989 Aug. 25(8). P 441-4.

JT ISRAEL JOURNAL OF MEDICAL SCIENCES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The prevalence and time trends of spina bifida and anencephaly in the central area of Israel have been studied using data derived from four hospitals affiliated with the International *Clearinghouse* for Birth Defects Monitoring Systems. Spina bifida rates show a continuous increase from 1978 (1.1/10,000) to 1986 (7.4/10,000) with a peak in 1984 (7-fold increase compared with 1978). The logistic regression analysis of proportion of cases revealed a significant linear trend over time (P less than 0.005). Anencephaly rates increased from 1978 to 1981 but later decreased continuously until 1986 when the prevalence returned to the initial level of 1978. This time trend of spina bifida may represent a real alarm; the implications of this observation are discussed. Author-abstract.

MJ ANENCEPHALY: epidemiology (ep). SPINA-BIFIDA-OCCULTA: epidemiology (ep).

MN ANENCEPHALY: prevention-and-control (pc). HUMAN. INFANT-NEWBORN. ISRAEL. MASS-SCREENING. SPINA-BIFIDA-OCCULTA: prevention-and-control (pc). TIME-FACTORS.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0021-2180. GY0.

CP ISRAEL (Z1.252.245.509, Z1.630.540).

IM 8912.
ND ENTRY DATE: 890927.
CLASS UPDATE: 90.

27

AN 89309248. 89000.
AU Cohen-A.
TI Urban unfinished business.
SO J-Public-Health-Policy. 1989 Summer. 10(2). P 214-21.
JT JOURNAL OF PUBLIC HEALTH POLICY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Water and sanitation services and hygiene education are crucial in preventing communicable and other diseases which daily take an enormous toll both in morbidity and mortality around the world. Diarrheal diseases are the most prevalent, affecting hundreds of millions of infants, children, and others. There is a current major demographic trend of migration to and explosive growth of low-income peri-urban settlements in and around large cities in developing nations. These settlements lack adequate and affordable water supplies and often have no sanitary facilities whatsoever. They are perfectly suited for the flourishing of water- and sanitation-related communicable and other diseases, which add considerably to the misery of abject poverty. However, working with members of these communities to provide water and sanitation services can both prevent such diseases and improve economic conditions. International assistance must be facilitative rather than interventionist. Developed nations should greatly increase their financial contribution for the facilities necessary for better water and sanitation. Initially, it is important to create an international urban information center to act as a *clearinghouse* of information. It would also be helpful to begin a four-decade urban sanitation planning effort along with an "Urban Watch" to promote significant developments in peri-urban settlements. Author-abstract.
MJ HEALTH-EDUCATION. SANITATION. WATER-SUPPLY: standards (st).
MN DEVELOPING-COUNTRIES. HUMAN. POVERTY-AREAS. URBAN-HEALTH. WORLD-HEALTH.
YR 1989.
IS 0197-5897. HS5.
CP UNITED-STATES (Z1.107.567.875).
IM 8910.
ND ENTRY DATE: 890817.
CLASS UPDATE: 90.

28

AN 89308182. 89000.
AU Blayney-K-D. Wilson-B-R. Bamberg-R. Vaughan-D-G.
IN National Multiskilled Health Practitioner *Clearinghouse,* School of Health Related Professions, University of Alabama at Birmingham.
TI The multiskilled health practitioner movement: where are we and how

did we get here?

SO J-Allied-Health. 1989 Winter. 18(2). P 215-26.

JT JOURNAL OF ALLIED HEALTH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Multiskilled practitioners have been in health care settings for a long time. The form multiskilled practitioners have taken has varied with the cultural, socioeconomic, and technological constructs of the times. Some multiskilled practitioners have come and gone while others, such as the medical assistant and physician assistant, have remained. The complexity and sophistication of skills being combined have increased over time as have the degree level and opportunities for dual certification. Skills have been combined both across and within disciplines. There is currently a greater number and variety of formal programs to prepare multiskilled health practitioners in educational institutions and health care facilities, and more informal on-the-job training efforts than ever before--and they are increasing. Employment of multiskilled personnel has become a survival strategy for health care institutions in this current era of cost containment. Multiskilled allied health practitioners with basic nursing skills (ie, LPN level) may also provide one step toward a solution to the nursing personnel shortage being experienced by some health care facilities. The catchword for multiskilled has become not "whether," but "how."¹⁵ It is to everyone's benefit to learn from the efforts of those with experience in implementing the multiskilled health practitioner concept for both national and international application. The National Multiskilled Health Practitioner *Clearinghouse* intends, through its publications, services, and resource files, to serve as the cornerstone upon which the information from those with experience can be repositied and disseminated. Author-abstract.

MJ ALLIED-HEALTH-PERSONNEL: supply-and-distribution (sd).

HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).

HEALTH-SERVICES-RESEARCH: trends (td).

MN ALLIED-HEALTH-PERSONNEL: education (ed). CERTIFICATION.

COST-CONTROL. HUMAN. RESEARCH. SPECIALISM. UNITED-STATES.

SB Priority Journals (M).

YR 1989.

IS 0090-7421. HA8.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890815.

CLASS UPDATE: 90.

29

AN 89187584. 89000.

TI *Clearinghouse* offers health professionals timely AIDS info.

SO Tex-Med. 1989 Feb. 85(2). P 21.

JT TEXAS MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).
 MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. HEALTH-OCCUPATIONS.
 INFORMATION-SERVICES.
 MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).
 HUMAN. UNITED-STATES. UNITED-STATES-PUBLIC-HEALTH-SERVICE.
 YR 1989.
 IS 0040-4470. VNA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8907.
 ND ENTRY DATE: 890511.

30

AN 89158331. 89000.
 AU Erickson-P. Kendall-E-A. Anderson-J-P. Kaplan-R-M.
 IN *Clearinghouse* on Health Indexes, National Center for Health
 Statistics, Hyattsville, MD 20872.
 TI Using composite health status measures to assess the nation's health.
 SO Med-Care. 1989 Mar. 27(3 Suppl). P S66-76.
 JT MEDICAL CARE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Research in progress at the National Center for Health Statistics for
 evaluating the usefulness of composite measures of health status for
 assessing the nation's health is described. Three measures suitable
 for use in the general population, the Health Insurance
 Experiment-Functional Limitations (HIE-FL), the Health Utility Index
 (HUI), and the Quality of Well-being (QWB) scale, have been mapped to
 data collected in the 1980 National Health Interview Survey (NHIS).
 Analysis using current algorithms for making composite function
 status measures according to the QWB methods suggests that
 traditional single indicators of health tend to overestimate the
 level of health by about 10%. When symptoms and problems are added
 to the composite function score, the overestimate as measured by the
 single indicator is at least 50%. The authors are continuing to
 validate these algorithms, to develop similar ones for the HIE-FL and
 HUI, and to extend the analysis to data collected in 1977, 1979, and
 1984. Current results indicate that to realize fully the benefits of
 composite measures, well-established, valid, and reliable measures of
 health-related quality of life should be included as part of the
 regular NHIS data collection procedures. Author-abstract.
 MJ HEALTH-STATUS-INDICATORS. HEALTH-SURVEYS.
 MN ACTIVITIES-OF-DAILY-LIVING. ADOLESCENCE. ADULT. AGED. FEMALE.
 HUMAN. MALE. MIDDLE-AGE. MOVEMENT.
 NATIONAL-CENTER-FOR-HEALTH-STATISTICS-U-S. QUESTIONNAIRES.
 RETROSPECTIVE-STUDIES. SOCIAL-BEHAVIOR. UNITED-STATES.
 SB Priority Journals (M).
 YR 1989.
 IS 0025-7079. LSM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8906.

ND ENTRY DATE: 890420.

CLASS UPDATE: 90.

31

AN 89156268. 89000.

AU Robert-E. Francannet-C. Robert-J-M.

IN Institut Europeen des Genomutations, Lyon.

TI `Registries of malformations in the Rhone-Alps/Auvergne region.
Value and limits of monitoring teratogenesis. 11 years' experience
(1976-1986):.

TT Le registre de malformations de la region Rhone-Alpes/Auvergne.
Interet et limites de la teratovigilance. Onze annees d'experience
(1976-1986).

SO J-Gynecol-Obstet-Biol-Reprod (Paris). 1988. 17(5). P 601-7.

JT JOURNAL DE GYNECOLOGIE, OBSTETRIQUE ET BIOLOGIE DE LA REPRODUCTION.

PT JOURNAL-ARTICLE (ART).

LG French (FR).

AB The authors describe a population-based birth defects registry, started in 1976. The system surveys about 85,000 births per year, occurring in 140 maternity units and representing more than ten per cent of all the births in France. Monitoring first covered the Rhone-Alpes region, then was extended to the Auvergne region in 1983 and to the Jura district in 1985. The method of investigation was "multi-source", because any doctor in the zone covered was in a position to notify a malformation to the registry. (497 obstetricians, pediatricians, pediatric surgeons, fetopathologists, geneticists and cytogeneticists). Malformations were coded with a specific terminal elaborated in the registry (1,600 items). The mothers' exposures to drugs during the first trimester of pregnancy were coded by trade names. The registry is a full member of the International *Clearinghouse* for Birth Defects Monitoring Systems, an international organisation now including in this group 25 regional or national birth defects registries and covering more than 3 million births per year. The 1986 results of monitoring birth defects in the described registry are given as examples. Within the eleven years (1976-86), 15,000 cases of malformations were registered, and two clusters have been detected and followed-up: femoral aplasia/hypoplasia in 1980-81 and oesophageal atresia in 1984. No cause was found for these "epidemics". The strong association between in utero exposure to valproic acid with spina bifida is the main result of the activities of the registry since its creation. Author-abstract.

MJ ABNORMALITIES. REGISTRIES.

MN ABNORMALITIES: epidemiology (ep). ABNORMALITIES-MULTIPLE:
epidemiology (ep). ENGLISH-ABSTRACT. FEMALE. FRANCE. HUMAN.
INFANT-NEWBORN. PREGNANCY. TERATOGENS.

RN 0 -- Teratogens.

SB Priority Journals (M).

YR 1988.

IS 0368-2315. IAZ.

CP FRANCE (Z1.542.286).
IM 8906.
ND ENTRY DATE: 890411.
CLASS UPDATE: 92.

32

AN 89092827. 89000.
AU Giam-C-H.
TI *Clearinghouse* for veterinarians wishing to work in developing countries `letter:.
SO J-Am-Vet-Med-Assoc. 1988 Dec 1. 193(11). P 1361.
JT JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION.
PT LETTER (LET).
LG English (EN).
MJ DEVELOPING-COUNTRIES. VETERINARY-MEDICINE: manpower (ma).
MN ANIMAL.
SB Priority Journals (M).
YR 1988.
IS 0003-1488. HAV.
CP UNITED-STATES (Z1.107.567.875).
IM 8904.
ND ENTRY DATE: 890221.
CLASS UPDATE: 91.

33

AN 88234875. 88000.
AU Kawata-P-A. Andriote-J-M.
IN National AIDS Network, Washington, DC 20005.
TI NAN--a national voice for community-based services to persons with AIDS.
SO Public-Health-Rep. 1988 May-Jun. 103(3). P 299-304.
JT PUBLIC HEALTH REPORTS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Because of the variety of needs engendered by AIDS, a broadbased response to the epidemic is warranted. The traditional medical model, with its emphasis on inpatient hospital care, is expensive and fails to address other needs of people with AIDS (PWAs). This paper outlines an alternative model: the community-based response, or continuum-of-care model. It builds on earlier community models of an integrated network of service providers who can better meet a range of needs of PWAs outside the hospital. Although the model may include a designated hospital AIDS unit that supplies inpatient services, the continuum-of-care model incorporates other nonacute and psychosocial services offered through community-based providers, and these services rely to a large extent on volunteers. Nationwide, more than 400 community-based AIDS service organizations have been formed in response to the growing AIDS epidemic, or have evolved from existing organizations. The National AIDS Network (NAN) was formed in 1985 by five such organizations to represent at the national level

the vision of community-based AIDS care. As the nexus for a national community-based response, NAN acts as a conduit for service providers to share experience as well as a *clearinghouse* for information and programs. Author-abstract.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. COMMUNITY-HEALTH-SERVICES.
ORGANIZATIONS-NONPROFIT.

MN HUMAN.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1988.

IS 0033-3549. QJA.

CP UNITED-STATES (Z1.107.567.875).

IM 8809.

ND ENTRY DATE: 880630.

CLASS UPDATE: 91.

34

AN 88234867. 88000.

AU Mason-J-O. Noble-G-R. Lindsey-B-K. Kolbe-L-J. Van-Ness-P.
Bowen-G-S. Drotman-D-P. Rosenberg-M-L.

IN Centers for Disease Control (CDC), Atlanta, GA 30333.

TI Current CDC efforts to prevent and control human immunodeficiency virus infection and AIDS in the United States through information and education.

SO Public-Health-Rep. 1988 May-Jun. 103(3). P 255-60.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The human immunodeficiency virus (HIV) is estimated to have infected more than a million people in the United States and millions more in other countries. Even though there is no vaccine or effective treatment, HIV infection can be prevented through behavioral change. As the lead Public Health Service Agency for disease prevention, the Centers for Disease Control (CDC) has designed and implemented information and education activities with the ultimate goal of preventing HIV infection and AIDS in the United States. The target populations include the general public, school- and college-aged populations, persons infected or at increased risk of infection, minorities, and health workers. Because AIDS will be with us for a long time, CDC views educating the public as a long-term undertaking. The agency has initiated an intensive continuing national public information campaign, an informational brochure to be distributed to every U.S. household, a national AIDS information toll-free hotline, and a *clearinghouse* system that will maintain a comprehensive inventory of AIDS information resources and services. CDC also supports public information and education efforts by State and local health agencies. To reach school- and college-age youth, CDC, in consultation with governmental and national private sector organizations, developed guidelines for effective school health education to assist school health personnel in determining the scope and content of AIDS education. CDC also works with State and local

education agencies to help carry out and evaluate educational efforts to prevent the spread of HIV among school- and college-age youth.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: therapy (th).
CENTERS-FOR-DISEASE-CONTROL-U-S. HEALTH-EDUCATION.
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: diagnosis (di),
prevention-and-control (pc). ADOLESCENCE. CHILD.
COMMUNITY-HEALTH-SERVICES. HEALTH-MANPOWER. HUMAN.
MINORITY-GROUPS. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1988.
IS 0033-3549. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880630.
CLASS UPDATE: 91.

35

AN 88100316. 88000.
TI Epidemiology of bladder exstrophy and epispadias: a communication from the International *Clearinghouse* for Birth Defects Monitoring Systems.
SO Teratology. 1987 Oct. 36(2). P 221-7.
JT TERATOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A study of infants with bladder exstrophy or epispadias was based on data from ten malformation monitoring systems around the world. The material is derived from nearly 6.3 million births. The recorded prevalence at birth of bladder exstrophy was 3.3 per 100,000 births and of epispadias (without bladder exstrophy) 2.4 per 100,000. The recorded rates of bladder exstrophy did not vary between the monitoring systems, but the rates of epispadias did. Furthermore, nearly all registered infants with epispadias were males. The sex ratio for bladder exstrophy was 1.5:1. Perinatal deaths occurred mainly when other malformations were also present. There was an increased risk in this group of malformations in infants of women aged less than 20 years. At high parity (3+), an increased risk was observed for bladder exstrophy, but there was a decreased risk for epispadias. The birth weight distribution was shifted slightly more to the left in isolated bladder exstrophy than in isolated epispadias, but was considerably shifted to the left when other malformations existed with bladder exstrophy. Most infants with other malformations belonged to the cloacal exstrophy sequence. There was no definite time trend between 1970 and 1985 in the prevalence at birth of bladder exstrophy. The study demonstrates how data from different monitoring registries can be pooled to characterize a rare malformation. Author-abstract.
MJ BLADDER-EXSTROPHY: epidemiology (ep). EPISPADIAS: epidemiology (ep).

MN ADULT. BIRTH-WEIGHT. BLADDER-EXSTROPHY: complications (co).
EPIDEMIOLOGIC-METHODS. EPISPADIAS: complications (co). FEMALE.
HUMAN. INFANT-NEWBORN. MALE. MATERNAL-AGE. REGISTRIES.
SEX-DIFFERENTIATION-DISORDERS: complications (co), epidemiology (ep).
SEX-RATIO.
SB Priority Journals (M).
YR 1987.
IS 0040-3709. VM8.
CP UNITED-STATES (Z1.107.567.875).
IM 8804.
ND ENTRY DATE: 880129.
CLASS UPDATE: 88.

36

AN 88046671. 88000.
AU Wollert-R.
IN Psychology Department, University of Saskatchewan, Saskatoon, Canada.
TI The self-help *clearinghouse* concept: an evaluation of one program and
its implications for policy and practice.
SO Am-J-Community-Psychol. 1987 Aug. 15(4). P 491-508.
JT AMERICAN JOURNAL OF COMMUNITY PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Many *clearinghouses* have been organized within the last decade to
promote mutual aid and to provide referral information about
self-help groups to potential members. Few of the assumptions that
underpin the operation of these programs have been evaluated,
however. This paper presents an evaluation of the Self-Help
Information Service, a *clearinghouse* integrated with a generic
information and referral service. The results were generally
positive with respect to operator and consumer satisfaction,
community responsiveness, and the system's capacity to undertake
numerous service and research functions. They also pointed up
several changes that might be made to improve the system's impact.
It is concluded that a new practice specialty might be developed
within a *clearinghouse* context, and that the *clearinghouse* concept
might serve as one cornerstone of a funding policy that supports the
self-help approach. Author-abstract.
MJ INFORMATION-SYSTEMS. SELF-HELP-GROUPS.
MN CONSUMER-SATISFACTION. HUMAN. INFORMATION-SYSTEMS: utilization
(ut). OREGON. REFERRAL-AND-CONSULTATION. RESEARCH.
SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1987.
IS 0091-0562. 3FV.
CP UNITED-STATES (Z1.107.567.875).
IM 8802.
ND ENTRY DATE: 871204.
NO R01MH33671.
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SEARCH 6-->

TI Process, *costs,* and outcomes of community-based *prenatal* *care* for adolescents.

SO *Med-Care.* 1991 Jun. 29(6). P 531-42.

JT MEDICAL *CARE.*

PT JOURNAL ARTICLE (ART).

LG English (EN).

AB An evaluation of a community-based *prenatal* *care* program for teens compared 180 adolescent clients with a sample of adolescents matched on age and year of delivery who received *care* through a traditional *prenatal* *care* program at a university medical center. Evaluation criteria describing the process of receiving *care* were the mean number of *prenatal* visits, nonscheduled outpatient visits, nonstress tests, ultrasounds, and inpatient days during pregnancy. The two programs were significantly different as measured by these criteria. Outcome criteria included gestational age, birthweight, the percentage of infants requiring neonatal intensive *care,* and the percentage of clients with maternal complications. A multivariate analysis showed no statistically significant differences in these outcomes. The average *cost* of resources consumed during *prenatal* *care* for the study group was 41% that of controls. Author-abstract.

MJ COMMUNITY-HEALTH-CENTERS: economics (ec).
 OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE:
 statistics-and-numerical-data (sn). PREGNANCY-IN-ADOLESCENCE.
 PREGNANCY-OUTCOME. *PRENATAL-CARE:* organization-and-administration (og).

MN ADOLESCENCE. ANALYSIS-OF-VARIANCE. COMPARATIVE-STUDY.
 COST-BENEFIT-ANALYSIS. FEMALE. HUMAN. INFANT-NEWBORN. MICHIGAN.
 OUTPATIENT-CLINICS-HOSPITAL: economics (ec). PREGNANCY.
 PRENATAL-CARE: economics (ec). RETROSPECTIVE-STUDIES. RISK-FACTORS.
 SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1991.

IS 0025-7079. LSM.

CP UNITED-STATES (Z1.107.567.875).

IM 9109.

ND ENTRY DATE: 910717.

3

AN 91215284. 91082.

AU Bigrigg-M-A. Read-M-D.

IN Gloucester Royal Hospital.

TI Management of women referred to early pregnancy assessment unit: *care* and *cost* effectiveness.

SO BMJ. 1991 Mar 9. 302(6776). P 577-9.

JT BMJ.

PT JOURNAL ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To assess the efficiency of an early pregnancy assessment unit in the *care* of women with bleeding or pain in early pregnancy. DESIGN--Analysis of women attending in the first year of the unit's

operation and in the six months immediately before its introduction.
SETTING--Early pregnancy assessment unit in a district general hospital serving a population of 310,000. PATIENTS--1141 women referred with bleeding or pain in early pregnancy. MAIN OUTCOME MEASURES--Length of stay in hospital required for diagnosis and treatment. RESULTS--Before the unit was established the mean admission time was one and a half (range half to three) days for women who required no treatment and three (one and a half to five) days in women requiring evacuation of uterus. These times were reduced to two hours as an outpatient and one day respectively for most women after the unit was established. Between 318 and 505 women were estimated to have been saved from unnecessary admission, and 233 had their stay reduced; the associated saving was between pounds 95,000 and pounds 120,000 in one year. CONCLUSIONS--The early pregnancy assessment unit improved the quality of *care* and also produced considerable savings in financial and staff resources.
Author-abstract.

MJ HOSPITAL-UNITS: standards (st). PREGNANCY-COMPLICATIONS: therapy (th). *PRENATAL-CARE:* standards (st). *QUALITY-OF-HEALTH-CARE.*
MN *COST-BENEFIT-ANALYSIS.* EFFICIENCY. ENGLAND. FEMALE. HUMAN. PREGNANCY. PREGNANCY-COMPLICATIONS: diagnosis (di). PROGNOSIS. REFERRAL-AND-CONSULTATION. TIME-FACTORS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 9108.
ND ENTRY DATE: 910603.

4

AN 91196448. 91073.
AU Papiernik-E. Keith-L-G.
IN Department of Obstetrics and Gynecology, Baudelocque University Clinic, University Rene Descartes, Paris, France.
TI The *cost* effectiveness of preventing preterm delivery in twin pregnancies.
SO Acta-Genet-Med-Gemellol (Roma). 1990. 39(3). P 361-9.
JT ACTA GENETICAE MEDICAE ET GEMELLOLOGIAE.
PT JOURNAL ARTICLE (ART).
LG English (EN).
AB As an extension of previous work on the risk of prematurity in singletons and on the social *cost* of twin births, an analysis has been carried out into the *cost* effectiveness of preventing premature delivery in twin pregnancies. The *cost* of prevention is assessed in terms of early diagnosis through ultrasound screening and of an extra 11 weeks of work leave to expectant mothers. When this *cost* is compared to the social *cost* involved in the transfer of newborns to neonatal intensity *care* units and in supporting handicapped children, it is concluded that the total *cost* of prevention corresponds to

one-third of the long-term *costs* associated to lack of prevention.
Author-abstract.

MJ LABOR-PREMATURE: prevention-and-control (pc). PREGNANCY-MULTIPLE.
TWINS.

MN *COST-BENEFIT-ANALYSIS.* EMPLOYMENT. FEMALE. FRANCE: epidemiology
(ep). HUMAN. INFANT-LOW-BIRTH-WEIGHT. INFANT-NEWBORN.
INFANT-PREMATURE. *INTENSIVE-CARE-UNITS-NEONATAL:* economics (ec).
LABOR-PREMATURE: economics (ec). PREGNANCY. *PRENATAL-CARE.* TWINS:
statistics-and-numerical-data (sn).

SB Priority Journals (M).

YR 1990.

IS 0001-5660. 0P6.

CP ITALY (Z1.542.489).

IM 9107.

ND ENTRY DATE: 910515.

5

AN 91190009. 91072.

AU Thomas-I-L.

IN Royal Women's Hospital, Brisbane.

TI *Cost* effectiveness of antenatal hepatitis B screening and vaccination
of infants.

SO Aust-N-Z-J-Obstet-Gynaecol. 1990 Nov. 30(4). P 331-5.

JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF OBSTETRICS AND GYNAECOLOGY.

PT JOURNAL ARTICLE (ART).

LG English (EN).

AB Over a 2-year study period 5,858 public antenatal patients were
screened with the Welcome hepatitis B surface antigen HA screening
kit; 52 (0.89%) were positive (carriers) and 45 (87%) of these were
identifiable as high risk patients and would have been diagnosed by
selective screening; the remaining 7 (13%) would have been missed.
Using a subsample of 1,000 women, it was found that high risk factors
were present in 237 (23.7%). Restriction of screening to the high
risk group *cost* an estimated \$97 per carrier identified; universal
screening *cost* \$354 to identify each carrier. Screening only the
high risk group would have missed the 7 carriers in the low risk
group, which was estimated to number 4,470 patients (76.3% of the
total). Estimated *cost* of screening the low risk group was \$14,036,
or \$2,005 per carrier identified. The advent of highly effective
vaccines enables the almost complete prevention of vertical
transmission of hepatitis B. In mid-1988, vaccine *costs* in terms of
hepatitis B prevention per baby were estimated to be \$2,432 for
vaccination of babies born to mothers in the high risk group,
irrespective of maternal serology; and \$9,729 for universal
vaccination. Carrier rates vary between populations. For our clinic
patients, universal screening and vaccination of all babies of high
risk group mothers are considered appropriate. Selective screening
may be more appropriate in a low risk private practice.
Author-abstract.

MJ HEPATITIS-B: prevention-and-control (pc). MASS-SCREENING: economics

(ec). PREGNANCY-COMPLICATIONS-INFECTIOUS: epidemiology (ep).
 PRENATAL-CARE: economics (ec). VACCINATION: economics (ec).
 VIRAL-HEPATITIS-VACCINES.
 MN CARRIER-STATE: epidemiology (ep). *COST-BENEFIT-ANALYSIS.* FEMALE.
 HEPATITIS-B: epidemiology (ep). HEPATITIS-B-SURFACE-ANTIGENS:
 analysis (an). HUMAN. INFANT-NEWBORN. PREGNANCY. QUEENSLAND:
 epidemiology (ep). RISK-FACTORS. VACCINES-SYNTHETIC.
 RN 0 -- hepatitis-B-vaccine.
 SB Priority Journals (M).
 YR 1990.
 IS 0004-8666. 9I0.
 CP AUSTRALIA (Z1.338).
 IM 9107.
 ND ENTRY DATE: 910509.

6

AN 91097858. 91044.
 AU Marks-J-S. Koplan-J-P. Hogue-C-J. Dalmat-M-E.
 IN Center for Chronic Disease Prevention and Hemotion (CCDP&HP), Centers
 for Disease Control, Atlanta, GA 30333.
 TI A *cost-benefit/cost-effectiveness* analysis of smoking cessation for
 pregnant women.
 SO Am-J-Prev-Med. 1990 Sep-Oct. 6(5). P 282-9.
 JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.
 PT JOURNAL ARTICLE (ART).
 LG English (EN).
 AB Research has shown that pregnant women who smoke cigarettes increase
 their risk of having low birthweight (LBW) infants. Recent
 randomized trials indicate that women who quit smoking early in
 pregnancy reduce their risk of delivering a LBW infant. Using
 various sources, we estimated the *cost-effectiveness* of a smoking
 cessation program for preventing LBW and perinatal mortality.
 Assuming the program would *cost* \$30 a participant and that 15% of the
 participants would quit smoking, we determined that a program offered
 to all pregnant smokers would shift 5,876 LBW infants to normal
 birthweight and would *cost* about \$4,000 for each LBW infant
 prevented. Since infants born to smokers are at 20% greater risk for
 a perinatal death, a smoking cessation program could prevent 338
 deaths at a *cost* of \$69,542 for each perinatal death averted.
 Compared with the *costs* of caring for these LBW infants in a neonatal
 intensive *care* unit (NICU), smoking cessation programs would save
 \$77,807,054, or \$3.31 per \$1 spent. The ratio of savings to *costs*
 increases to more than six to one when we include reducing long-term
 care for infants with disabilities secondary to LBW in the *benefits*
 from smoking cessation programs. These findings argue for routinely
 including smoking cessation programs in *prenatal* *care* for smokers.
 Author-abstract.
 MJ HEALTH-EDUCATION: economics (ec). PREGNANCY-COMPLICATIONS:
 prevention-and-control (pc). SMOKING: prevention-and-control (pc).
 MN ADULT. *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. *INFANT-CARE:*

economics (ec). INFANT-MORTALITY. INFANT-LOW-BIRTH-WEIGHT.
INFANT-NEWBORN. PREGNANCY. PREGNANCY-OUTCOME. RISK.
SENSITIVITY-AND-SPECIFICITY.

SB Priority Journals (M).

YR 1990.

IS 0749-3797. APL.

CP UNITED-STATES (Z1.107.567.875).

IM 9104.

ND ENTRY DATE: 910221.

7

AN 90381991. 90000.

AU Rosenberg-K. Twaddle-S.

TI Screening and surveillance of pregnancy hypertension--an economic
approach to the use of daycare.

SO Baillieres-Clin-Obstet-Gynaecol. 1990 Mar. 4(1). P 89-107.

JT BAILLIERES CLINICAL OBSTETRICS AND GYNAECOLOGY.

LG English (EN).

AB Frequent measurement of blood pressure is an accepted part of routine
outpatient antenatal *care.* Women found to have mild hypertension may
be further monitored for signs of progressive disease, while women
with proteinuria or severe hypertension may be admitted for more
intensive surveillance or treatment. In practice, the course and
ultimate severity of this disorder are unpredictable and women with
mild hypertension are frequently admitted. Recently, daycare has
grown as an option for assessing women with hypertension as it offers
the advantage of more extensive evaluation than is possible at an
outpatient clinic and is widely assumed to be more *cost-effective*
than conventional management. However, its use in obstetrics has not
been subject to a formal economic appraisal. Such an evaluation is
currently being carried out in two hospitals in Scotland, one of
which uses daycare and inpatient admissions in the management of
hypertension and one of which uses domiciliary midwife visits as well
as hospital beds. Preliminary results suggest that the pregnancy
outcome in terms of birthweight, gestation at delivery, admission to
a special unit, etc., are the same in the two units for women with
mild hypertension (diastolic 90-99 mmHg, no proteinuria). The *costs*
per patient were less in the hospital with a daycare unit. These
lower individual *costs,* however, do not mean that the overall *costs*
to the health service are less in a hospital with daycare. This will
depend on the average number of visits to daycare for women with mild
hypertension, the proportion of hypertensive women receiving daycare,
whether freed inpatient beds are closed or redeployed, and the
capital *costs* of establishing a day unit. Data has also been
collected on women's *costs* and views which will ultimately be
presented and should play a part in any decision to implement or
continue daycare. Author-abstract.

MJ *DAY-CARE:* standards (st). HYPERTENSION: therapy (th).

MASS-SCREENING: standards (st).

PREGNANCY-COMPLICATIONS-CARDIOVASCULAR: therapy (th).

MN *COST-BENEFIT-ANALYSIS.* *DAY-CARE:* economics (ec). DECISION-TREES.
 FEMALE. HUMAN. HYPERTENSION: mortality (mo), prevention-and-control
 (pc). MASS-SCREENING: economics (ec). ORGANIZATIONAL-OBJECTIVES.
 PATIENT-ADMISSION: statistics-and-numerical-data (sn). PREGNANCY.
 PREGNANCY-COMPLICATIONS-CARDIOVASCULAR: mortality (mo),
 prevention-and-control (pc). PREGNANCY-OUTCOME. *PRENATAL-CARE:*
 organization-and-administration (og), standards (st).
 PROGRAM-EVALUATION. SCOTLAND. SUPPORT-NON-U-S-GOVT.
 SB Priority Journals (M).
 YR 1990.
 IS 0950-3552. DFO.
 CP ENGLAND (Z1.542.363.300).
 IM 9012.
 ND ENTRY DATE: 901019.
 CLASS UPDATE: 90.

8

AN 90341472. 90000.
 AU Ershoff-D-H. Quinn-V-P. Mullen-P-D. Lairson-D-R.
 IN Maxicare Research and Educational Foundation, Los Angeles, CA 90025.
 TI Pregnancy and medical *cost* outcomes of a self-help *prenatal* smoking
 cessation program in a HMO.
 SO Public-Health-Rep. 1990 Jul-Aug. 105(4). P 340-7.
 JT PUBLIC HEALTH REPORTS.
 LG English (EN).
 AB The results of a randomized clinical trial of a *prenatal* self-help
 smoking cessation program are reported in terms of the pregnancy and
 cost outcomes. The study population were the socioeconomically and
 ethnically diverse members of a large health maintenance organization
 (HMO) who reported that they were smoking at the time of their first
 prenatal visit. The intervention consisted predominantly of printed
 materials received through the mail. Compared with the usual *care*
 control group, women assigned to the self-help program were more
 likely to achieve cessation for the majority of their pregnancy (22.2
 percent versus 8.6 percent), gave birth to infants weighing on
 average 57 grams more, and were 45 percent less likely to deliver a
 low birth weight infant. An economic evaluation of the self-help
 program was conducted from the perspective of the sponsoring HMO.
 Based upon the expenditures associated with the neonates' initial
 hospital episode, the intervention had a *benefit-cost* ratio of 2.8:1.
 These findings provide strong evidence to support widespread
 incorporation of smoking cessation interventions as a standard
 component of *prenatal* *care.* Author-abstract.
 MJ PREGNANCY-OUTCOME. *PRENATAL-CARE:* economics (ec). SELF-HELP-GROUPS.
 SMOKING: therapy (th).
 MN *COST-BENEFIT-ANALYSIS.* FEMALE. HEALTH-MAINTENANCE-ORGANIZATIONS.
 HUMAN. INFANT-LOW-BIRTH-WEIGHT. INFANT-NEWBORN. INFANT-PREMATURE.
 INTERVENTION-STUDIES. PREGNANCY. PROGRAM-EVALUATION.
 SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1990.
IS QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900913.
NO HS05128.

10

AN 90304422. 90000.
AU Michie-S. Marteau-T-M. Kidd-J.
IN Psychology Unit, Royal Free Hospital School of Medicine, London, UK.
TI Cognitive predictors of attendance at antenatal classes.
SO Br-J-Clin-Psychol. 1990 May. 29 (Pt 2). P 193-9.
JT BRITISH JOURNAL OF CLINICAL PSYCHOLOGY.
LG English (EN).
AB This study investigates what factors discriminate between women attending and those not attending antenatal classes in a sample of 94 primigravida women. The 20 per cent of the sample who did not attend were less positive about the classes, more likely to evaluate the *costs* of attending as outweighing the *benefits* and more likely to think that avoiding them may help them cope. The best predictor of antenatal class attendance was women's intention at 28 weeks of pregnancy. The inclusion of demographic and attitude variables did not improve the accuracy of prediction. The most variable predicting intention was women's *'cost/benefit'* judgement. Author-abstract.
MJ MOTHERS: education (ed). PATIENT-COMPLIANCE. PREGNANCY: psychology (px). *PRENATAL-CARE:* psychology (px).
MN ADAPTATION-PSYCHOLOGICAL. ADULT. ANXIETY: psychology (px). FEMALE. HUMAN. MOTIVATION. PERSONALITY-INVENTORY. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1990.
IS 0144-6657. BOK.
CP ENGLAND (Z1.542.363.300).
IM 9010.
ND ENTRY DATE: 900816.

11

AN 90278384. 90000.
AU Masood-S. Hosein-I. Pitcher-M. Graf-W.
IN University of Florida College of Medicine, Gainesville.
TI Potential value of immunoperoxidase technique in assessment of genital herpes.
SO J-Fla-Med-Assoc. 1990 May. 77(5). P 516-9.
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
LG English (EN).
AB Cervicovaginal smears from 86 patients with suspicious genital herpes were screened by routine Papanicolaou stain. The slides were then destained and restained by a commercial immunoperoxidase kit for the detection of herpes simplex virus. Results were compared with

standard viral cultures performed on the same lesions. A statistically significant difference (P less than 0.05) was observed between the results of Papanicolaou-stained cytology and the immunoperoxidase technique. This study suggests that the immunoperoxidase technique is a rapid and reliable method of confirming a suspected diagnosis of herpetic infection. It is particularly useful in those patients without *prenatal* *care* who present in early labor when a rapid diagnostic test is required. Author-abstract.

MJ HERPES-GENITALIS: diagnosis (di). IMMUNOENZYME-TECHNIQUES. REAGENT-KITS-DIAGNOSTIC. VAGINAL-SMEARS.
MN *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. IMMUNOENZYME-TECHNIQUES: economics (ec). REAGENT-KITS-DIAGNOSTIC: economics (ec).
YR 1990.
IS 0015-4148. I53.
CP UNITED-STATES (Z1.107.567.875).
IM 9009.
ND ENTRY DATE: 900718.
CLASS UPDATE: 90.

12

AN 90221548. 90000.
AU Torok-M. Gati-I.
IN Orvostovábbképző Egyetem, Szülészeti és Nőgyógyászati Klinika, Budapest.
TI `The current method of early recognition and treatment of threatened premature labor:.
TT A fenyegető koraszülés korai felismerésének és kezelésének korszerű módszere.
SO Orv-Hetil. 1990 Apr 8. 131(14). P 731-7.
JT ORVOSI HETILAP.
PT REVIEW (REV). REVIEW, TUTORIAL (TUT).
LG Hungarian (HU).
AB The authors, following a short review of the currently available diagnostic and therapy methods of threatening premature delivery, introduce their own method. The most important feature of this method is a two-level, computerized telecommunicative system. According to the risk factors, physical examination and the patient's complaints (clinical parameters) a risk score analysis is made by the central computer of the outpatient clinic. Those pregnant women who fall into the high-risk group are followed-up by means of a portable contraction monitor. The treatment is introduced according to the registered spontaneous contraction activity. (hospitalisation, beta-mimetic etc.). After institution of the therapy the patient can be emitted to her home under the *care* of the portable monitor. Data of the registered and stored contraction activity from the patient's home can be transmitted to the central computer of the out-patient clinic via phone. If the telephone connection is not possible, the physician can read out the stored data from the memory of the portable monitor on its own display during regular visits. Finally

the authors make preliminary *cost-benefit* calculation on the basis of the literature and their own data and conclude that their method can be very *cost* effective as well. Author-abstract. 43 Refs.

MJ ABORTION-THREATENED: diagnosis (di). LABOR-PREMATURE: diagnosis (di). *PRENATAL-CARE.*

MN ABNORMALITIES: diagnosis (di). ABORTION-THREATENED: prevention-and-control (pc). ENGLISH-ABSTRACT. FEMALE. HUMAN. HUNGARY. INFANT-NEWBORN. INFANT-PREMATURE. LABOR-PREMATURE: therapy (th). MONITORING-PHYSIOLOGIC: economics (ec). PREGNANCY. *PRENATAL-CARE:* economics (ec), methods (mt). *PRENATAL-DIAGNOSIS.* RISK-FACTORS.

YR 1990.

IS 0030-6002. OL8.

CP HUNGARY (Z1.542.248.495).

IM 9007.

ND ENTRY DATE: 900524.

CLASS UPDATE: 90.

13

AN 90202471. 90000.

AU Wells-R-D. McDiarmid-J. Bayatpour-M.

IN Department of Pediatrics, University of California, San Francisco.

TI Perinatal Health Belief Scales. A *cost-effective* technique for predicting *prenatal* appointment keeping rates among pregnant teenagers.

SO *J-Adolesc-Health-Care.* 1990 Mar. 11(2). P 119-24.

JT JOURNAL OF ADOLESCENT HEALTH *CARE.*

LG English (EN).

AB This study was designed to test two different methods for predicting pregnant teenagers at risk for failing to keep appointments for comprehensive *prenatal* *care.* Sixty-three pregnant adolescents completed psychological questionnaires assessing depression, social support, and life events. They and their primary health *care* provider also completed the Perinatal Health Belief Scales (PHBS) measuring the respondent's perception of risk and need for services. Following their infant's birth, adolescents completed a measure of health *care* satisfaction. Chart reviews provided data regarding birth weight, gestational age, Apgar scores, and appointment-keeping information. The results suggest that adolescents who failed to keep the most appointments were likely to have significantly lower levels of concern regarding their risks during pregnancy than their primary health *care* provider. Adolescents were more likely to keep appointments if they expressed levels of concern on the PHBS that were similar to their health *care* provider. The psychological measures and PHBS when applied individually, were not successful in predicting those with the greatest likelihood for nonadherence to appointments. Author-abstract.

MJ ATTITUDE-TO-HEALTH. PATIENT-COMPLIANCE. PREGNANCY-IN-ADOLESCENCE: psychology (px).

MN ADOLESCENCE. APPOINTMENTS-AND-SCHEDULES. CHILD.

CONSUMER-SATISFACTION. *COST-BENEFIT-ANALYSIS.* DEPRESSIVE-DISORDER:
diagnosis (di). FEMALE. HUMAN. LIFE-CHANGE-EVENTS.
PERSONALITY-INVENTORY. PREGNANCY. PREGNANCY-OUTCOME.
PRENATAL-CARE. QUESTIONNAIRES. SOCIAL-SUPPORT.

SB Priority Journals (M).

YR 1990.

IS 0197-0070. HAM.

CP UNITED-STATES (Z1.107.567.875).

IM 9007.

ND ENTRY DATE: 900502.

CLASS UPDATE: 90.

15

AN 90187763. 90000.

AU Le-Gales-C. Moatti-J-P.

IN INSERM Unite 240, Evaluation des risques et des actions de
prevention, Fontenay-aux-Roses.

TI *`Cost-effectiveness* analysis of HIV screening in pregnant women in
hospitals in the Paris region:.

TT Analyse cout-efficacite du depistage du VIH chez les femmes enceintes
dans les hopitaux de la region parisienne.

SO J-Gynecol-Obstet-Biol-Reprod (Paris). 1990. 19(1). P 36-42.

JT JOURNAL DE GYNECOLOGIE, OBSTETRIQUE ET BIOLOGIE DE LA REPRODUCTION.

LG French (FR).

AB Spontaneous diffusion of HIV screening at the occasion of pregnancy
has been especially rapid in France. In April-May 1988, 45% of
general practitioners systematically prescribed HIV screening during
premarital or *prenatal* consultations. Experimentation of systematic
prenatal HIV screening has been performed for some time in various
French maternity hospitals. On the basis of real data concerning HIV
screening of more than 15,000 pregnant women between August 1987 and
July 1988 in 9 Paris hospitals, a *cost-effectiveness* analysis has
been performed. It showed that the total *cost* of systematic
screening for women admitted to maternity hospitals for *prenatal* *care*
and whose HIV status was previously unknown, was about 1.5 million
French francs (about \$240,000) and that 22 new cases of HIV positive
were discovered. During the first five months (first period), the
mean *cost* per pregnant woman found to be HIV positive was about 42 to
45,000 FF (\$6,700-7,150). A similar calculation over the following
months, gave a mean *cost* 4 times higher. The *cost* and effectiveness
of a selective screening for high risk women were also estimated. In
this hypothetical case, 13.6% of women would have been tested, the
mean *cost* of discovering, at the hospital, a new HIV positive
pregnant woman would have been 7,500 FF (\$1,200) during the first
period. The quadrupling of the mean *cost* of identifying an HIV
positive pregnant woman by systematic hospital screening, despite a
concomitant increase in prevalence in the population, can be
explained only by an increase in *prenatal* screening prescribed by the
private practitioner in ambulatory medicine before the first hospital
prenatal visit. The monthly evolution of the proportion of women

already screened before consultation in one of the nine maternity hospitals had increased by almost 50% between the beginning and the end of the studied period. An evaluation of a policy of HIV screening during pregnancy depends, at least in the French health *care* system, on the different ways the ambulatory and hospital sectors complement themselves. Author-abstract.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: diagnosis (di).
HIV-SEROPREVALENCE. MASS-SCREENING: economics (ec).
PREGNANCY-COMPLICATIONS-INFECTIOUS: diagnosis (di).

MN *COST-BENEFIT-ANALYSIS.* ENGLISH-ABSTRACT. FEMALE.
HOSPITALS-MATERNITY. HUMAN. PARIS. PREGNANCY.

SB Priority Journals (M).

YR 1990.

IS 0368-2315. IAZ.

CP FRANCE (Z1.542.286).

IM 9006.

ND ENTRY DATE: 900423.

CLASS UPDATE: 90.

18

AN 90061715. 90000.

AU Gorsky-R-D. Colby-J-P Jr.

IN University of New Hampshire, Department of Health Management and Policy, Durham 03824.

TI The *cost* effectiveness of *prenatal* *care* in reducing low birth weight in New Hampshire.

SO Health-Serv-Res. 1989 Dec. 24(5). P 583-98.

JT HEALTH SERVICES RESEARCH.

LG English (EN).

AB This study calculates the *cost* effectiveness of adequate *prenatal* *care* in reducing the low birth weight rate for each of three socioeconomic groups of women: those with less than 12 years of education, those with 12 years, and those with more than 12 years. Target low birth weight rates for each group were those actually achieved by New Hampshire women receiving adequate *prenatal* *care* within respective education groups. The estimated total *cost* associated with low birth weight births among the 1981-1984 cohort of New Hampshire resident births was more than \$38 million. With universal adequate *prenatal* *care,* the low birth weight *costs* would be less than \$32 million, a *cost* savings of \$6.5 million. Since the additional *cost* of providing adequate *prenatal* *care* to all women was estimated to be \$2.5 million, the net *cost* savings were estimated to be \$4 million, or \$1 million per year. For each additional \$1 spent on *prenatal* *care,* \$2.57 in medical *care* *costs* would be saved. Author-abstract.

MJ INFANT-LOW-BIRTH-WEIGHT. *PRENATAL-CARE:* economics (ec).

MN ADULT. COMPARATIVE-STUDY. *COST-BENEFIT-ANALYSIS:*
statistics-and-numerical-data (sn). EDUCATIONAL-STATUS. FEMALE.
HOSPITALIZATION: economics (ec). HUMAN. INFANT-NEWBORN. MEDICAID:

utilization (ut). NEW-HAMPSHIRE. PREGNANCY. RETROSPECTIVE-STUDIES.
SOCIOECONOMIC-FACTORS. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Priority Journals (M).

YR 1989.

IS 0017-9124. G2L.

CP UNITED-STATES (Z1.107.567.875).

IM 9003.

ND ENTRY DATE: 891227.

CLASS UPDATE: 90.

NO 2S07RR0710814.

19

AN 90045279. 90000.

AU Koretz-R-L.

IN Division of Gastroenterology, Olive View Medical Center, Sylmar,
California.

TI Universal *prenatal* hepatitis B testing: is it *cost-effective?*

SO Obstet-Gynecol. 1989 Nov. 74(5). P 808-14.

JT OBSTETRICS AND GYNECOLOGY.

PT REVIEW (REV). REVIEW, TUTORIAL (TUT).

LG English (EN).

AB It was recently recommended that all pregnant women undergo *prenatal* hepatitis B screening. This change from previous policy (which advocated screening of only those individuals with recognized epidemiologic risk factors) is a very costly strategy to use in an effort to prevent the perinatal spread of hepatitis B in the "no-risk-factor" population. Inherent problems already exist in screening, related to the following: 1) the failure for disease transmission to occur in the majority of hepatitis B e antigen-negative pregnancies, 2) the lack of established efficacy of prophylaxis in the hepatitis B e antigen-negative pregnancy, 3) the preponderance of hepatitis B e antigen negativity in pregnant hepatitis B surface antigen carriers, and 4) the compliance of the mother to ensure that the prophylaxis program is accomplished. These are further magnified by the lower rates of hepatitis B surface antigen and hepatitis B e antigen positivity in the population without risk factors. The major expense of a screening program is the hepatitis B surface antigen testing of the mother. The *cost* to prevent a clinically important case of hepatitis B in the neonates of mothers with no risk factors is \$180,000, which is 15 times the *cost* of preventing a case in neonates of mothers with risk factors. This price appears not to be *cost-effective.* Author-abstract. 47 Refs.

MJ HEPATITIS-B: prevention-and-control (pc). HEPATITIS-B-ANTIGENS:
analysis (an). MASS-SCREENING: economics (ec).

PREGNANCY-COMPLICATIONS-INFECTIOUS: prevention-and-control (pc).

PRENATAL-CARE: economics (ec).

MN *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. PREGNANCY. RISK-FACTORS.
UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1989.
IS 0029-7844. OC2.
CP UNITED-STATES (Z1.107.567.875).
IM 9002.
ND ENTRY DATE: 891130.
CLASS UPDATE: 90.

20

AN 89344791. 89000.
AU Nagey-D-A.
IN Department of Obstetrics and Gynecology, University of Maryland
School of Medicine, Baltimore.
TI The content of *prenatal* *care*.
SO Obstet-Gynecol. 1989 Sep. 74(3 Pt 2). P 516-28.
JT OBSTETRICS AND GYNECOLOGY.
PT REVIEW (REV). REVIEW, TUTORIAL (TUT).
LG English (EN).
AB *Prenatal* *care* consists of patient education, evaluation of the
pregnant woman for physical or historic factors requiring special
care, careful assessment of gestational age, and determination of the
success with which the mother and fetus(es) are tolerating the
pregnancy. These elements of *care* during pregnancy are reviewed in
turn. Additional, less tangible components of *care* may help explain
the salutary effects of *prenatal* *care* on pregnancy outcome. The
obstetric health *care* provider's expression of caring for the woman
and her pregnancy adds to her existing social support and is a vital
aspect of *prenatal* *care.* Author-abstract. 85 Refs.
MJ PATIENT-EDUCATION. PREGNANCY-COMPLICATIONS: prevention-and-control
(pc). PREGNANCY-OUTCOME. *PRENATAL-CARE*.
MN *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. MASS-SCREENING.
PHYSICAL-EXAMINATION. PREGNANCY. SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1989.
IS 0029-7844. OC2.
CP UNITED-STATES (Z1.107.567.875).
IM 8911.
ND ENTRY DATE: 890921.
CLASS UPDATE: 90.

22

AN 89142678. 89000.
AU Brooks-Gunn-J. McCormick-M-C. Gunn-R-W. Shorter-T. Wallace-C-Y.
Heagarty-M-C.
IN Educational Testing Service, Princeton, NJ 08541.
TI Outreach as case finding. The process of locating low-income
pregnant women.
SO *Med-Care.* 1989 Feb. 27(2). P 95-102.
JT MEDICAL *CARE*.
LG English (EN).

AB This article documents the process of an outreach program for locating disadvantaged women who, as a group, do not receive *prenatal* *care* early and have adverse pregnancy outcomes. Three full-time community residents searched for pregnant women for a year, being paid a commission for each woman that they found who enrolled for antenatal *care.* Outreach workers spent more than half of their time in the field, contacted 20 to 25 people per day, and used a variety of strategies to locate women. Fifty-two women entered the Harlem Hospital Medical Center health *care* system through the outreach process, with 104 pregnant women not already receiving antenatal *care* being identified by the outreach workers. Their effort, conversion rate, and yield were comparable to private sector salespeople. The *cost* per enrollee was high (although not higher than the *cost* of additional low-birthweight births). Alternatives for locating pregnant women are suggested. Author-abstract.

MJ COMMUNITY-HEALTH-AIDES. MEDICAL-INDIGENCY: trends (td).
PRENATAL-CARE: trends (td).

MN COMMUNITY-HEALTH-AIDES: economics (ec). *COST-BENEFIT-ANALYSIS.*
FEMALE. HUMAN. INFANT-NEWBORN. MEDICAL-INDIGENCY: economics (ec).
NEW-YORK-CITY. *PATIENT-ACCEPTANCE-OF-HEALTH-CARE.* PREGNANCY.
PREGNANCY-COMPLICATIONS: prevention-and-control (pc).
PREGNANCY-OUTCOME. *PRENATAL-CARE:* economics (ec).
REFERRAL-AND-CONSULTATION: trends (td). SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1989.

IS 0025-7079. LSM.

CP UNITED-STATES (Z1.107.567.875).

IM 8906.

ND ENTRY DATE: 890403.

23

AN 89137680. 89000.

AU Morrison-J-C. Martin-J-N Jr. Martin-R-W. Hess-L-W. Gookin-K-S.
Wiser-W-L.

IN Department of Obstetrics and Gynecology, University of Mississippi
Medical Center, Jackson.

TI *Cost* effectiveness of ambulatory uterine activity monitoring.

SO Int-J-Gynaecol-Obstet. 1989 Feb. 28(2). P 127-32.

JT INTERNATIONAL JOURNAL OF GYNAECOLOGY AND OBSTETRICS.

LG English (EN).

AB A *cost* analysis is presented comparing 34 patients who received uterine activity monitoring versus 33 patients who attempted to detect uterine activity by palpation. All patients were at high risk for preterm delivery and were given the same educational information and *prenatal* *care* regarding signs and symptoms of preterm labor. The results revealed an increase in newborn days (640) and *cost* to those patients who were in the self-palpation group (\$13,364) compared to monitored parturients (268 days and \$8,633). The difference was attributed to neonatal morbidity from an increased number of preterm deliveries greater than 26 weeks but less than 37 weeks ($P = 0.04$).

The increase in NICU days was significant ($P = 0.03$). No difference in normal newborn *costs* for infants delivered after greater than 33 weeks could be detected between the two groups, but morbidity was increased among control infants delivering between 34 and 36 weeks. Uterine activity monitoring to prevent preterm birth appears to be medically effective and reduces *cost.* Author-abstract.

MJ LABOR-PREMATURE: prevention-and-control (pc).
MONITORING-PHYSIOLOGIC. UTERINE-CONTRACTION.
MN COMPARATIVE-STUDY. *COST-BENEFIT-ANALYSIS.* FEMALE. HOSPITALIZATION:
economics (ec). HUMAN. LABOR-PREMATURE: diagnosis (di), economics
(ec). PALPATION. PREGNANCY. PROSPECTIVE-STUDIES. *SELF-CARE.*
SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1989.
IS 0020-7292. E4T.
CP SWEDEN (Z1.542.808.843).
IM 8906.
ND ENTRY DATE: 890329.

24

AN 88214061. 88000.
AU Boyer-K-M.
IN Department of Pediatrics, Rush-Presbyterian-St. Luke's Medical
Center, Chicago, Illinois 60612.
TI Maternal screening in prevention of neonatal infections: current
status and rationale for group B streptococcal screening.
SO J-Hosp-Infect. 1988 Feb. 11 Suppl A. P 328-33.
JT JOURNAL OF HOSPITAL INFECTION.
LG English (EN).
AB Maternal screening--either selective or universal--is an accepted
component of a number of strategies for prevention of congenital and
perinatal infections. Using the results of maternal screening at
prenatal visits and the presence of perinatal risk factors during
labour, neonatal group B streptococcal (GBS) early-onset disease can
be prevented by selective intrapartum chemoprophylaxis. Possible
variations on this strategy may employ semiquantitative tests for GBS
colonization at *prenatal* visits or, possibly, rapid bacterial
diagnosis intrapartum. Based on the incidence and economic impact of
GBS disease, selective intrapartum chemoprophylaxis appears
cost-effective in United States populations, but may not be so in
countries with lower incidence rates. Author-abstract.
MJ MATERNAL-FETAL-EXCHANGE. STREPTOCOCCAL-INFECTIONS:
prevention-and-control (pc).
MN ANTIBIOTICS: administration-and-dosage (ad). *COST-BENEFIT-ANALYSIS.*
FEMALE. HUMAN. INFANT-NEWBORN. PREGNANCY.
PREGNANCY-COMPLICATIONS-INFECTIOUS: diagnosis (di). *PRENATAL-CARE:*
economics (ec). RISK-FACTORS. STREPTOCOCCAL-INFECTIONS: diagnosis
(di), transmission (tm). STREPTOCOCCUS-AGALACTIAE.
SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).

YR 1988.
IS 0195-6701. ID6.
CP UNITED-STATES (Z1.107.567.875).
IM 8808.
ND ENTRY DATE: 880616.
CLASS UPDATE: 90.
NO HD09700. AI37941.

25

AN 88173720. 88000.
AU Joyce-T. Corman-H. Grossman-M.
IN National Bureau of Economic Research, New York, New York.
TI A *cost-effectiveness* analysis of strategies to reduce infant mortality.
SO *Med-Care.* 1988 Apr. 26(4). P 348-60.
JT MEDICAL *CARE.*
LG English (EN).
AB This study compares the *cost* effectiveness of various health inputs and government programs in reducing race-specific neonatal mortality or death in the first 27 days of life. Approximately two thirds of all infant deaths occur within this period. The programs and inputs at issue are teenage family planning use; the supplemental food program for women, infants, and children (WIC); use of community health centers and maternal and infant *care* projects; abortion; *prenatal* *care*; and neonatal intensive *care.* Using an economic model of the family as the analytic framework, effectiveness is determined by using ordinary least squares and two-stage least squares to estimate infant health production functions across large counties in the United States in 1977. Estimates of *costs* are from a number of published sources. We find the early initiation of *prenatal* *care* to be the most *cost-effective* means of reducing the neonatal mortality rate for blacks and whites. Moreover, blacks *benefit* more per dollar of input use than whites. Neonatal intensive *care,* although the most effective means of reducing neonatal mortality rates, is one of the least *cost-effective* strategies. Author-abstract.
MJ CHILD-HEALTH-SERVICES: economics (ec). INFANT-MORTALITY.
MATERNAL-HEALTH-SERVICES: economics (ec).
MN COMMUNITY-HEALTH-CENTERS: utilization (ut). *COST-BENEFIT-ANALYSIS.*
FAMILY-PLANNING. FEMALE. FOOD-SERVICES. HUMAN. INFANT-NEWBORN.
INTENSIVE-CARE-UNITS-NEONATAL. PREGNANCY. *PRENATAL-CARE.*
SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1988.
IS 0025-7079. LSM.
CP UNITED-STATES (Z1.107.567.875).
IM 8807.
ND ENTRY DATE: 880512.
NO 5R01HD16316.

26

AN 88125778. 88000.
 AU Windsor-R-A. Warner-K-E. Cutter-G-R.
 IN Department of Health Behavior, School of Public Health, University of Alabama, Birmingham 35224.
 TI A *cost-effectiveness* analysis of self-help smoking cessation methods for pregnant women.
 SO Public-Health-Rep. 1988 Jan-Feb. 103(1). P 83-8.
 JT PUBLIC HEALTH REPORTS.
 LG English (EN).
 AB Estimates of the *cost* effectiveness and *cost* *benefit* of health promotion-health education methods for pregnant smokers designed to increase birth weight are not available. This paper presents the results of a *cost-effectiveness* analysis from a recently completed randomized trial to evaluate the effectiveness of self-help smoking cessation methods for pregnant women in public health maternity clinics. The study population--309 pregnant smokers from 3 *prenatal* clinics--were randomly assigned, during their first clinic visit, to 1 of 3 groups: (a) group 1 received the standard clinic information and advice to quit smoking, (b) group 2 received the standard clinic information and advice to quit plus the manual "Freedom From Smoking in 20 Days" by the American Lung Association, and (c) group 3 received the standard clinic information and advice to quit plus the pregnancy-specific manual "A Pregnant Woman's Self-Help Guide to Quit Smoking." The quit rates by the end of pregnancy were 2 percent for group 1, 6 percent for group 2, and 14 percent for group 3. Analyses also indicated that the method used for group 3 was the most *cost* effective: group 3 achieved smoking cessation at less than half the *cost* experienced by the other two groups. Although additional studies are needed concerning the behavioral impact, *cost* effectiveness, and *cost* *benefit* of self-help health education methods for smoking cessation, the methods tested in this trial are promising as solutions to part of the problem of low birth weight among infants of smoking mothers in the United States. Author-abstract.
 MJ HEALTH-PROMOTION: methods (mt). PREGNANCY. SMOKING: prevention-and-control (pc).
 MN *COST-BENEFIT-ANALYSIS.* EVALUATION-STUDIES. FEMALE. HEALTH-PROMOTION: economics (ec). HUMAN. *PRENATAL-CARE.* RANDOM-ALLOCATION.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1988.
 IS QJA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8805.
 ND ENTRY DATE: 880316.
 CLASS UPDATE: 90.

AN 87138920. 87000.
 AU Splett-P-L. Caldwell-H-M. Holey-E-S. Alton-I-R.
 IN School of Public Health, University of Minnesota, Minneapolis.

TI *Prenatal* nutrition services: a *cost* analysis.
 SO J-Am-Diet-Assoc. 1987 Feb. 87(2). P 204-8.
 JT JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION.
 LG English (EN).
 AB The scarcity of information about program *costs* in relation to quality *care* prompted a *cost* analysis of *prenatal* nutrition services in two urban settings. This study examined *prenatal* nutrition services in terms of total *costs,* per client *costs,* per visit *costs,* and *cost* per successful outcome. Standard *cost-accounting* principles were used. Outcome measures, based on written quality assurance criteria, were audited using standard procedures. In the studied programs, nutrition services were delivered for a per client *cost* of \$72 in a health department setting and \$121 in a hospital-based *prenatal* *care* program. Further analysis illustrates that total and per client *costs* can be misleading and that *costs* related to successful outcomes are much higher. The three levels of *cost* analysis reported provide baseline data for quantifying the *costs* of providing *prenatal* nutrition services to healthy pregnant women. *Cost* information from these *cost* analysis procedures can be used to guide adjustments in service delivery to assure successful outcomes of nutrition *care.* Accurate *cost* and outcome data are necessary prerequisites to *cost-effectiveness* and *cost-benefit* studies.
 Author-abstract.
 MJ DIETARY-SERVICES: economics (ec). *PRENATAL-CARE:* economics (ec).
 MN COMPARATIVE-STUDY. *COSTS-AND-COST-ANALYSIS.* FEMALE.
 HOSPITALS-COUNTY: economics (ec). HUMAN. MINNESOTA. PREGNANCY.
 PUBLIC-HEALTH-ADMINISTRATION: economics (ec).
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1987.
 IS 0002-8223. H6F.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8706.
 ND ENTRY DATE: 870330.
 CLASS UPDATE: 90.

28

AN 87105858. 87000.
 AU Torres-A. Donovan-P. Dittes-N. Forrest-J-D.
 IN Alan Guttmacher Institute.
 TI Public *benefits* and *costs* of government funding for abortion.
 SO Fam-Plann-Perspect. 1986 May-Jun. 18(3). P 111-8.
 JT FAMILY PLANNING PERSPECTIVES.
 LG English (EN).
 AB In state referenda to end public funding of abortions for poor women, one of the most successful tactics of abortion foes has been to charge that abortion funding increases the burden on taxpayers. A state-by-state analysis by The Alan Guttmacher Institute (AGI) shows that the opposite is the case. For every tax dollar spent to pay for abortions for poor women, about four dollars is saved in public medical and welfare expenditures. The savings are in public

expenditures that otherwise would have to be incurred because of the babies that poor women would have borne. On the basis of earlier research, it was assumed that 20 percent of Medicaid-eligible women who could not obtain abortions would give birth. Public *costs* examined in the AGI analysis include Medicaid expenditures for *prenatal* *care,* delivery and postnatal *care* for the mother, and for newborn *care,* neonatal intensive *care* and pediatric *care* for the child for the first two years of life; as well as expenditures for Aid to Families with Dependent Children (AFDC), food stamps and the Special Supplemental Food Program for Women, Infants and Children (WIC) during those first two years. The *benefit-to-cost* ratio varies from about 9:1 in Massachusetts to 2:1 in Hawaii and Pennsylvania. The net savings for the nation as a whole over a two-year period if abortions were publicly funded in every state would total at least \$339.6 million. Author-abstract.

MJ ABORTION-LEGAL: economics (ec). MATERNAL-HEALTH-SERVICES: economics (ec). PUBLIC-ASSISTANCE.

MN AID-TO-FAMILIES-WITH-DEPENDENT-CHILDREN. *COST-BENEFIT-ANALYSIS.* DATA-COLLECTION. FEMALE. FOOD-SERVICES: economics (ec). HUMAN. INFANT-NEWBORN. MEDICAID. PREGNANCY. SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1986.

IS 0014-7354. ERK.

CP UNITED-STATES (Z1.107.567.875).

IM 8705.

ND ENTRY DATE: 870304.

CLASS UPDATE: 90.

29

AN 87097508. 87000.

AU Wetzel-A-M. Kirz-D-S.

TI Routine hepatitis screening in adolescent pregnancies: is it *cost* effective?

SO Am-J-Obstet-Gynecol. 1987 Jan. 156(1). P 166-9.

JT AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.

LG English (EN).

AB In most obstetric centers routine serum screening for hepatitis B is not part of standard *prenatal* *care.* This study was designed to determine whether hepatitis B screening is *cost* effective for routine *prenatal* testing. In a *prenatal* population of 585 adolescents the *cost-benefit* ratio of hepatitis B screening was compared with that of routine syphilis screening. Eight positive results were detected, with a *cost* of \$1755 per positive case. This compared favorably with the frequency and *cost* of detection of syphilis in the same population. Routine hepatitis B screening is recommended for consideration in similar *prenatal* populations. Author-abstract.

MJ DIAGNOSTIC-TESTS-ROUTINE: economics (ec). HEPATITIS-B: prevention-and-control (pc). PREGNANCY-COMPLICATIONS-INFECTIOUS: prevention-and-control (pc). *PRENATAL-CARE:* economics (ec).

MN ADOLESCENCE. CHICAGO. COMPARATIVE-STUDY. *COST-BENEFIT-ANALYSIS.*
FEMALE. HOSPITAL-BED-CAPACITY-500-AND-OVER. HUMAN. PREGNANCY.
RISK. SYPHILIS-SERODIAGNOSIS: economics (ec).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1987.
IS 0002-9378. 3NI.
CP UNITED-STATES (Z1.107.567.875).
IM 8704.
ND ENTRY DATE: 870217.
CLASS UPDATE: 90.

30

AN 87068206. 87000.
AU Schramm-W-F.
TI *Prenatal* participation in WIC related to Medicaid *costs* for Missouri
newborns: 1982 update.
SO Public-Health-Rep. 1986 Nov-Dec. 101(6). P 607-15.
JT PUBLIC HEALTH REPORTS.
LG English (EN).
AB This study replicates a 1980 evaluation of WIC *prenatal* participation
in Missouri by using a file of 9,086 Missouri Medicaid records
matched with the corresponding birth records. This file was divided
into a WIC group containing 3,261 records and a non-WIC group of
5,825 records. The 1982 results generally confirm the 1980 results,
with the 1982 findings showing slightly improved pregnancy outcomes
for WIC participants and slightly reduced *benefit-to-cost* ratios
compared with the 1980 findings. In 1982, WIC participation was
found to be associated with an increase in mean birth weight of 31
grams and reductions in low birth weight rates (statistically
significant) and in neonatal death rates (not statistically
significant). The reduction in each rate was 23 percent. WIC
participation was also associated with a reduction in Medicaid *costs*
for newborns reported within 45 days of birth amounting to \$76 per
participant. For every dollar spent on WIC, about 49 cents in
Medicaid *costs* were apparently saved. However, wide 95 percent
confidence intervals (\$.07, \$.90) make it difficult to determine
precisely what impact WIC has on Federal and State budget outlays.
Author-abstract.
MJ FOOD-SERVICES: economics (ec). MEDICAID: utilization (ut).
PRENATAL-CARE: economics (ec).
MN BIRTH-WEIGHT. *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN.
INFANT-MORTALITY. INFANT-NEWBORN. *INTENSIVE-CARE-UNITS-NEONATAL:*
utilization (ut). MISSOURI.
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. PREGNANCY.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1986.
IS 0090-2818. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 8703.

ND ENTRY DATE: 870112.
CLASS UPDATE: 90.

1

AN 91363196. 91123.
AU Pisano-E-D. McLelland-R.
IN University of North Carolina, Chapel Hill.
TI Implementation of *breast* *cancer* *screening.*
SO Curr-Opin-Radiol. 1991 Aug. 3(4). P 579-87.
JT CURRENT OPINION IN RADIOLOGY.
PT JOURNAL ARTICLE (ART). REVIEW (REV). REVIEW, TUTORIAL (TUT).
LG English (EN).
AB Mammography, *breast* physical examination, and *breast* self-examination are recommended for *breast* *cancer* *screening.* Although in randomized trials of *screening,* mammography demonstrated a reduction in *breast* *cancer* mortality for women over 50, such data are not available for *breast* physical or self-examination. The Canadian National *Breast* *Screening* Study should provide data regarding the efficacy of *breast* physical examination alone. The World Health Organization has established trials to evaluate self-examination in the USSR and Germany. There is still controversy regarding routine mammographic *screening* and the optimal *screening* interval for women under age 50. The *costs* of mammographic *screening* remain a concern, but these *costs* can be lessened considerably through efficiency of mammographic services and a reduction in the number of false-positive interpretations that prompt biopsy. Primary care physicians can help to reduce *breast* *cancer* mortality by referring their patients for *screening* mammography and by performing *breast* physical examinations. Author-abstract. 30 Refs.
MJ *BREAST.* *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY. *MASS-SCREENING.* SELF-EXAMINATION.
MN *COST-BENEFIT-ANALYSIS.* *COSTS-AND-COST-ANALYSIS.* FEMALE. HUMAN. PHYSICAL-EXAMINATION.
SB Priority Journals (M).
YR 1991.
IS 1040-869X. AVF.
CP UNITED-STATES (Z1.107.567.875).
IM 9112.
ND ENTRY DATE: 911017.

2

AN 91226914. 91083.
AU Sierra-A-E. Potchen-E-J.
IN Department of Radiology, Michigan State University, East Lansing.
TI Use of mammography in *screening* for *breast* *cancer.*
SO Obstet-Gynecol-Clin-North-Am. 1990 Dec. 17(4). P 927-38.
JT OBSTETRICS AND GYNECOLOGY CLINICS OF NORTH AMERICA.
PT JOURNAL ARTICLE (ART). REVIEW (REV). REVIEW LITERATURE (RLT).
LG English (EN).
AB Recognizing the enormous impact that quality *breast* *screening*

mammography can have on reducing *breast* *cancer* deaths, we need to determine when women's and physician's perceived restrictions for mammography examination impede the progress of its use for early *cancer* detection. A uniform system should emphasize valid communication and education between women and their physicians. Women seek to have a voice in their medical treatment. Yet that responsibility has an emotional price. Physicians and patients must decide together on the most appropriate strategies to enhance communication and adopt specific guidelines they will adhere to, to detect and cure early *breast* *cancer.* Women must be educated about *breast* *screening* mammography, and physicians must increase their efforts to proclaim its importance. Women need be assured the trend is toward using the most modern mammographic techniques. Quality medical care is medicine's purpose and in women's best interest. At present, no other diagnostic method is equivalent to mammography and capable of providing an equivalent impact on improving the detection and cure rate of *breast* *cancer.* Despite medical activities designed to reduce uncertainty in medicine, scientific evidence has not provided systematic answers as to the "best" way to approach issues of quality, *cost,* accessibility, or communication for *breast* *screening* mammography. No particular expert opinion or preference prevails for *breast* *screening* protocols. What is needed is adoption of a multidisciplinary approach, educating and motivating women and physicians to participate in *breast* *screening* activities. With trends directed toward high-volume *breast* *screening* operations, *low-cost,* quality mammography must be available and be impeccably performed. Some activities are natural subjects for financial quantification. It is objectionable to assume, however, that we can accurately place and agree on dollar amounts alone to represent the *costs* and *benefits* of *screening* mammography. The gaps between practices and attitudes about the *benefits,* risks, and *costs* of *screening* mammography suggest that people are not satisfied with the way physicians, women, influential groups, or regulatory agencies are balancing all of the elements. Better communication must exist between physicians and their peer groups involved in performing responsible mammography. Better communication must be achieved between physicians and women to take advantage of the usefulness of quality *breast* *screening* mammography. High-quality *screening* programs must be linked to third-party reimbursement and to legislation, if we are to make a difference. *Screening* mammography deserves our medical, economic, social, and political attention and action. Author-abstract. 32 Refs.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY.
MN ADULT. AGED. AGED-80-AND-OVER. FEMALE. HUMAN. MIDDLE-AGE.
SB Priority Journals (M).
YR 1990.
IS 0889-8545. OGC.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910613.

5

AN 91168090. 91064.
AU Okubo-I. Glick-H. Frumkin-H. Eisenberg-J-M.
IN Medical Economics Division, Japanese Ministry of Health and Welfare,
Tokyo.
TI *Cost-effectiveness* analysis of mass *screening* for *breast* *cancer* in
Japan.
SO *Cancer.* 1991 Apr 15. 67(8). P 2021-9.
JT *CANCER.*
PT JOURNAL ARTICLE (ART).
LG English (EN).
AB The official Japanese recommendation for *breast* *cancer* *screening* is
physical examination by a physician, in contrast to US
recommendations of mammography. In this analysis of *breast* *cancer*
screening, the authors used Japanese data in a *cost-effectiveness*
model to compare the following five strategies: (1) no *screening* (N);
(2) physical examination alone (PE); (3) mammography (MG); (4) PE
followed by MG if PE findings were abnormal (PE---MG); and (5) PE
combined with MG for all screened women (PE + MG). None of these
programs would save medical expenditures. The total discounted net
costs per patient (in US dollars) were as follows: N, +54; PE, +412;
MG, +517; PE---MG, +340; and PE + MG, +731. The number of years of
life saved per cohort of 100,000 asymptomatic Japanese women would
range from 708 (PE---MG) to 3724 (PG + MG). The additional *cost* of
each strategy (compared with N) per additional year of life would be
+49,700 for PE, +40,400 for PE---MG, +14,300 for MG, and +18,000 for
PE + MG. The least costly *screening* option (PE---MG) does not have
the lowest *cost* per additional year of life saved (MG does). MG
would be preferable to the current Japanese recommendation of PE
alone. Author-abstract.
MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). *MASS-SCREENING:*
economics (ec).
MN COMPUTER-SIMULATION. *COST-BENEFIT-ANALYSIS.*
COSTS-AND-COST-ANALYSIS. FEMALE. HUMAN. JAPAN. MAMMOGRAPHY:
economics (ec). MODELS-THEORETICAL. PHYSICAL-EXAMINATION: economics
(ec). SENSITIVITY-AND-SPECIFICITY. SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer*
Journals (X).
YR 1991.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9106.
ND ENTRY DATE: 910424.

6

AN 91121399. 91053.
AU McLelland-R.
IN Department of Radiology, University of North Carolina School of
Medicine, Chapel Hill.

TI *Screening* mammography.
 SO *Cancer.* 1991 Feb 15. 67(4 Suppl). P 1129-31.
 JT *CANCER.*
 PT JOURNAL ARTICLE (ART). REVIEW (REV). REVIEW, TUTORIAL (TUT).
 LG English (EN).
 AB *Screening* mammography can reduce mortality from *breast* *cancer* and is the only means of detecting nonpalpable *cancers* that are often more curable. Based on this, guidelines have evolved but compliance with them has been slow. Reservations are based on *yield-cost-benefit-harm* considerations, but uniformed and/or disadvantaged women and reluctance if not resistance to *screening* mammography by primary care physicians are major problems. The challenges are to overcome these obstacles and to obtain sufficient competent personnel and facilities to make reproducibly optimum *screening* mammography, which is accurately interpreted, widely available to all eligible women at the lowest possible *cost.*
 Author-abstract. 18 Refs.
 MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY.
 MASS-SCREENING: instrumentation (is).
 MN *BREAST-NEOPLASMS:* mortality (mo). *COST-BENEFIT-ANALYSIS.* FEMALE.
 HUMAN. MAMMOGRAPHY: economics (ec). PREDICTIVE-VALUE-OF-TESTS.
 SURVIVAL-RATE.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer* Journals (X).
 YR 1991.
 IS 0008-543X. CLZ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9105.
 ND ENTRY DATE: 910308.

7

AN 91105382. 91051.
 AU Hobbs-P. Kay-C. Friedman-E-H. St-Leger-A-S. Lambert-C.
 Boggis-C-R. Howard-T-M. Asbury-D-L.
 IN Regional Oncology Support Service, North West Regional Health Authority, Manchester.
 TI Response by women aged 65-79 to invitation for *screening* for *breast* *cancer* by mammography: a pilot study.
 SO BMJ. 1990 Dec 8. 301(6764). P 1314-6.
 JT BMJ.
 PT JOURNAL ARTICLE (ART).
 LG English (EN).
 AB OBJECTIVE--To determine whether there is sufficient *benefit* to be gained by offering *screening* for *breast* *cancer* with mammography to women aged 65-79, who are not normally invited for *screening.*
 DESIGN--Pilot study of women eligible for *screening* but not for personal invitation. The results of this study were compared with the results of routinely screened younger women (aged 50-64) from the same general practice. SETTING--One group general practice in south Manchester. PATIENTS--The 631 women aged 65-79 on the practice list.

A total of 42 (7%) were excluded by the general practitioner, and 22 (4%) invitation letters were returned by the post office. MAIN OUTCOME MEASURES--Response rates to invitation for *screening* assessed by three indices: crude population coverage ratio, crude invited population coverage ratio, and corrected invited population coverage ratio. RESULTS--344 Patients aged 65-79 (61% of those invited, excluding those who could not be traced) were screened compared with 77% of women aged 50-64. The three response indices were higher for younger women than older: crude population coverage ratio = 66.5%, crude invited population coverage ratio = 69.3%, corrected invited population coverage ratio = 76.8% for women aged 50-64, compared with 54.5%, 58.4%, and 60.7% respectively for women aged 65-79. All four biopsies done in the older women gave positive results, giving a *cancer* detection rate of 11.6/1000 compared with 4.1/1000 among younger women. CONCLUSIONS--These results show that there is a potential for high attendance at routine *screening* by older women if they are invited in the same way as younger women. If these results are found elsewhere the *costs* and *benefits* of *screening* older women should be reassessed. Author-abstract.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY: utilization (ut). *MASS-SCREENING:* utilization (ut). PATIENT-ACCEPTANCE-OF-HEALTH-CARE: statistics-and-numerical-data (sn).
 MN AGED. *BREAST-NEOPLASMS:* psychology (px), radiography (ra). ENGLAND. FEMALE. HUMAN. MAMMOGRAPHY: psychology (px). PILOT-PROJECTS.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer* Journals (X).
 YR 1990.
 IS 0959-8138. BMJ.
 CP ENGLAND (Z1.542.363.300).
 IM 9105.
 ND ENTRY DATE: 910226.

8

AN 91003864. 91011.
 AU van-Oortmarssen-G-J. Habbema-J-D. van-der-Maas-P-J. de-Koning-H-J. Collette-H-J. Verbeek-A-L. Geerts-A-T. Lubbe-K-T.
 IN Department of Public Health and Social Medicine, Erasmus University, Rotterdam, The Netherlands.
 TI A model for *breast* *cancer* *screening*.
 SO *Cancer.* 1990 Oct 1. 66(7). P 1601-12.
 JT *CANCER*.
 PT JOURNAL ARTICLE (ART).
 LG English (EN).
 AB A model for *breast* *cancer* *screening* has been developed. When the appropriate *screening* policy is specified, the model reproduces the detection rates and the incidence of interval *cancers* as observed in the recent *screening* projects in Utrecht and Nijmegen, the Netherlands. The model-predicted mortality rate reduction is in accordance with the results of the Koppaerberg/Ostergotland randomized

trial in Sweden. Key parameters of the model are the duration of the preclinical stages and the sensitivity of mammography. The average duration is approximately 2 years at age 40 and increases to approximately 5 years at age 70. The sensitivity is high (approximately 95%) for tumors larger than 1 cm. The model is used in the prospective evaluation of effects and *costs* of various *screening* policies. Author-abstract.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). COMPUTER-SIMULATION.
MASS-SCREENING: methods (mt). MODELS-BIOLOGICAL.
MN ADULT. AGED. *BREAST-NEOPLASMS:* epidemiology (ep), mortality (mo).
COST-BENEFIT-ANALYSIS. FEMALE. HUMAN. INCIDENCE. *MASS-SCREENING:*
economics (ec). MIDDLE-AGE. NETHERLANDS: epidemiology (ep).
PROGNOSIS. PROSPECTIVE-STUDIES. SUPPORT-NON-U-S-GOVT.
SURVIVAL-RATE.
SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer*
Journals (X).
YR 1990.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9101.
ND ENTRY DATE: 901114.

10

AN 90302026. 90000.
AU Koopmanschap-M-A. Lubbe-K-T. van-Oortmarssen-G-J. van-Agt-H-M.
van-Ballegooijen-M. Habbema-J-K.
IN Department of Public Health and Social Medicine, Erasmus University
Rotterdam, The Netherlands.
TI Economic aspects of cervical *cancer* *screening*.*
SO Soc-Sci-Med. 1990. 30(10). P 1081-7.
JT SOCIAL SCIENCE AND MEDICINE.
LG English (EN).
AB The results of a *cost-effectiveness* analysis of cervical *cancer*
screening in The Netherlands are reported, emphasizing the analysis
of the *costs* of *screening* and consequent diagnosis and treatment.
Many organized *screening* policies are evaluated, differing in
age-range and interval between screens. The *cost* estimates are based
on organization charts, file studies and tariffs. The *costs* of
screening itself are by far the most important *cost* component.
Screening increases the *costs* of diagnosis. *Costs* for primary
treatment only rise for large *screening* policies. *Screening* causes
savings in *costs* of terminal treatment, but these are small compared
with the *costs* of *screening*.* The *costs* per life-year gained for the
most efficient policies amount to DFL 24,000 for the policy with 7
invitations per woman in a lifetime and rise considerably in case of
more than 10 invitations. Cervical *cancer* *screening* appears to be
less *cost-effective* than *breast* *cancer* *screening,* but compared with
other services the results are comparatively good. Implementing one
of the efficient organized *screening* policies and discouraging

spontaneous *screening* beyond that schedule leads to considerable savings. Moreover, many organized policies which are not efficient are still superior to spontaneous *screening.* Author-abstract.

MJ CERVIX-NEOPLASMS: economics (ec). *MASS-SCREENING:* economics (ec). NATIONAL-HEALTH-PROGRAMS: economics (ec).

MN ADULT. CERVIX-NEOPLASMS: diagnosis (di), mortality (mo), prevention-and-control(pc). *COST-BENEFIT-ANALYSIS:* statistics-and-numerical-data (sn). FEMALE. HUMAN. MIDDLE-AGE. NETHERLANDS. PROSPECTIVE-STUDIES. SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1990.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 9010.

ND ENTRY DATE: 900806.

13

AN 90188439. 90000.

AU Schmidt-J-G.

IN Centre for Clinical Epidemiology, University of Newcastle, NSW, Australia.

TI The epidemiology of mass *breast* *cancer* *screening--a* plea for a valid measure of *benefit* `see comments:.

CM Comment in: J Clin Epidemiol 1990;43(3):227-34; discussion 235-9.

SO J-Clin-Epidemiol. 1990. 43(3). P 215-25.

JT JOURNAL OF CLINICAL EPIDEMIOLOGY.

PT REVIEW (REV). REVIEW, TUTORIAL (TUT).

LG English (EN).

AB The present paper analyses the epidemiologic effects of mass *breast* *cancer* *screening.* Mass mammography may possibly achieve a *breast* *cancer* mortality reduction in relative risk terms. However, this does not necessarily represent a net *benefit.* It is argued that the *benefits* and adverse effects of a *screening* programme must be measured in terms of absolute risks. According to this measure, the mortality reduction achieved by a mass *breast* *screening* programme is only one death per approx. 15,000 women-years. Many thousands of mammograms are needed to prevent one *cancer* death, and for each woman who can derive a direct *benefit* in terms of a prevented *breast* *cancer* death, hundreds of women have to suffer the anxiety of a positive *screening* mammography. Moreover, it is possible that adverse effects of *breast* *cancer* *screening* may contribute to mortality from other causes. Even with the assumption that *screening* can save lives, the net health effect of mass *breast* *cancer* *screening* is questionable and appears to be rather detrimental. It may be an error to recommend mass *breast* *screening.* Author-abstract. 47 Refs.

MJ *BREAST-NEOPLASMS:* epidemiology (ep). *MASS-SCREENING.*

MN ADULT. AGED. *BREAST-NEOPLASMS:* prevention-and-control (pc). *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. MAMMOGRAPHY. MIDDLE-AGE. OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. RISK-FACTORS.

SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1990.
IS 0895-4356. JCE.
CP ENGLAND (Z1.542.363.300).
IM 9006.
ND ENTRY DATE: 900426.
CLASS UPDATE: 90.

14

AN 90159927. 90000.
AU Erichsen-G-G.
TI `Mammographic *screening* for *breast* *cancer--a* *cost-benefit* analysis:.
TT Mammeografisk *screening* for *cancer* mammae--en *cost-benefit* analyse.
SO Nord-Med. 1990. 105(2). P 64-6.
JT NORDISK MEDICIN.
LG Danish (DA).
AB A *cost-benefit* analysis of the Swedish model for *screening* for neoplasma malignum mammae revealed scientific shortcomings in the basis for decision. It was not possible to determine whether the *screening* model involved a net loss or a net profit for the individual woman. Since false confidence seems to increase the mortality in *breast* *cancer* a new dimension was introduced, a sensitivity index as an expression of revealed fractions of the incidence in the participant population. This sensitivity index estimated some two thirds of the malignant neoplasms which are normally diagnosed in a two year period. Author-abstract.
MJ *BREAST-NEOPLASMS:* radiography (ra). MAMMOGRAPHY: economics (ec).
MASS-SCREENING: economics (ec).
MN *BREAST-NEOPLASMS:* prevention-and-control (pc).
COST-BENEFIT-ANALYSIS. DENMARK. ENGLISH-ABSTRACT. FEMALE. HUMAN.
SENSITIVITY-AND-SPECIFICITY.
YR 1990.
IS 0029-1420. 04K.
CP SWEDEN (Z1.542.808.843).
IM 9005.
ND ENTRY DATE: 900322.
CLASS UPDATE: 90.

15

AN 90079328. 90000.
AU Tabar-L. Fagerberg-G. Duffy-S-W. Day-N-E.
IN Department of Mammography, Central Hospital, Falun, Sweden.
TI The Swedish two county trial of mammographic *screening* for *breast* *cancer:* recent results and calculation of *benefit.*
SO J-Epidemiol-Community-Health. 1989 Jun. 43(2). P 107-14.
JT JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH.
PT CLINICAL TRIAL (CTR).
LG English (EN).
AB The Swedish two county trial of *breast* *cancer* *screening* is now in its

tenth year. This paper presents detailed results on mortality from *breast* *cancer* and from all other causes, and on the population denominators at risk for each of the first 8 years of follow up, for each county separately. These data represent a two year update on the last major report. Results show an increasingly significant deficit in deaths from *breast* *cancer* among the 77,092 women invited to *screening* relative to the 56,000 not invited (RR = 0.68, p = 0.002), with no significant difference between the effects of *screening* in the two counties (p = 0.5). These results remain the same when adjusted for age. Analysis of all cause deaths shows no significant effect of *screening* (p = 0.5), nor was there any significant effect of *screening* on deaths from all causes other than *breast* *cancer* (p = 0.9). The rates of deaths from intercurrent illness in *breast* *cancer* cases were almost identical in the group invited to *screening* and the group not invited (p = 0.7). This result remained the same when adjusted for age. We calculate that in the age group 50-69 at entry, one *breast* *cancer* death was prevented per 4000 woman/years, per 1460 mammographic examinations, per 13.5 biopsies, and per 7.4 *breast* *cancers* detected. Author-abstract.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY.
MASS-SCREENING.

MN ADULT. AGE-FACTORS. AGED. *BREAST-NEOPLASMS:* mortality (mo).
CLINICAL-TRIALS. *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN.
MIDDLE-AGE. MORTALITY. NEOPLASM-METASTASIS. RANDOM-ALLOCATION.
SUPPORT-NON-U-S-GOVT. SWEDEN.

SB Priority Journals (M).

YR 1989.

IS 0143-005X. I1P.

CP ENGLAND (Z1.542.363.300).

IM 9003.

ND ENTRY DATE: 900112.

CLASS UPDATE: 90.

17

AN 89349908. 89000.

AU Eddy-D-M.

IN Center for Health Policy Research and Education, Duke University,
Durham, North Carolina.

TI *Screening* for *breast* *cancer* `see comments:.

CM Comment in: Ann Intern Med 1989 Nov 15;111(10):858-9.

SO Ann-Intern-Med. 1989 Sep 1. 111(5). P 389-99.

JT ANNALS OF INTERNAL MEDICINE.

PT CLINICAL TRIAL (CTR). REVIEW (REV). REVIEW, TUTORIAL (TUT).

LG English (EN).

AB There is very good evidence that *screening* for *breast* *cancer* reduces mortality in women older than 50 years and suggestive but inconsistent evidence that *screening* is effective in reducing long-term mortality in women younger than 50 years. The probability that an average-risk woman will be diagnosed with *breast* *cancer* in the coming 10 years is about 130 in 10,000 for a 40-year-old woman,

230 in 10,000 for a 55-year-old woman, and 280 in 10,000 for a 65-year-old woman. The chance of dying from *breast* *cancer* diagnosed in the coming 10 years is about 90 in 10,000, 123 in 10,000, and 120 in 10,000 for women age 40, 55, and 65, respectively. Mathematical models based on data from controlled trials of *screening* programs indicate that *screening* annually for 10 years with *breast* physical examination will decrease the probability of death from *breast* *cancer* by about 25 in 10,000 for women in the three age groups and increase life expectancy by about 20 days. Adding annual mammography will decrease the probability of death from *breast* *cancer* an additional 25 in 10,000 and increase life expectancy an additional 20 days. The actual reductions in mortality observed in controlled trials are slightly lower. If women are screened annually for 10 years with *breast* physical examination and mammography, the chance for a false-positive result over the 10-year period is approximately 2500 in 10,000. On the population level, if 25% of women age 40 to 75 are screened annually with both examinations, deaths from *breast* *cancer* would be decreased by about 4000 in the year 2000. Net annual *costs* would be approximately \$1.3 billion. Recommending a *screening* strategy requires weighing the *benefits* against the risks and *costs.* Author-abstract. 30 Refs.

- MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). *MASS-SCREENING.*
 MN ADULT. AGE-FACTORS. AGED. *BREAST-NEOPLASMS:* diagnosis (di),
 epidemiology (ep).CLINICAL-TRIALS. *COST-BENEFIT-ANALYSIS.* FEMALE.
 HUMAN. MAMMOGRAPHY. *MASS-SCREENING:* economics (ec), methods (mt).
 MIDDLE-AGE. PHYSICAL-EXAMINATION. PROBABILITY.
 SUPPORT-NON-U-S-GOVT.
- SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer*
 Journals (X).
- YR 1989.
- IS 0003-4819. 5A6.
- CP UNITED-STATES (Z1.107.567.875).
- IM 8911.
- ND ENTRY DATE: 890918.
 LAST REVISION DATE: 900305.
 CLASS UPDATE: 90.
- 18
- AN 89277581. 89000.
- AU van-der-Maas-P-J. de-Koning-H-J. van-Ineveld-B-M.
 van-Oortmarssen-G-J. Habbema-J-D. Lubbe-K-T. Geerts-A-T.
 Collette-H-J. Verbeek-A-L. Hendriks-J-H. et al.
- IN Dept. of Public Health and Social Medicine, Erasmus Universiteit,
 Rotterdam, The Netherlands.
- TI The *cost-effectiveness* of *breast* *cancer* *screening.*
 SO *Int-J-Cancer.* 1989 Jun 15. 43(6). P 1055-60.
- JT INTERNATIONAL JOURNAL OF *CANCER.*
- LG English (EN).
- AB The *costs* and effects of different invitation schedules of *breast*
 cancer *screening* are compared. The effect estimates are based on
 trials from the USA, Sweden and the Netherlands. The *cost* estimates

use registration data, file studies and organization charts. The calculations were performed with the MISCAN computer simulation package, which is developed especially for the evaluation of mass *screening* programmes. *Screening* women of 50-70 years at 2-yearly intervals is a relatively *cost-effective* schedule. In a real population, it will reduce *breast* *cancer* mortality by 12%. *Screening* of women under 50 is probably far less *cost-effective.* *Screening* induces a considerable shift towards *breast-conserving* therapy. Although a 12% mortality reduction may seem low, in absolute numbers this represents more than the total mortality from, e.g., cervical *cancer.* Moreover, *cost* per death prevented or per life-year saved is much lower than for most other medical interventions for which *cost-effectiveness* ratios are known, *screening* for cervical *cancer* included. Author-abstract.

MJ *BREAST-NEOPLASMS:* economics (ec). *MASS-SCREENING:* economics (ec).
MN AGED. *BREAST-NEOPLASMS:* epidemiology (ep), mortality (mo), prevention-and-control (pc). COMPARATIVE-STUDY. COMPUTER-SIMULATION. *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. *MASS-SCREENING:* methods (mt). MIDDLE-AGE. MODELS-STATISTICAL. NETHERLANDS. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M). *Cancer* Journals (X).
YR 1989.
IS 0020-7136. GQU.
CP UNITED-STATES (Z1.107.567.875).
IM 8909.
ND ENTRY DATE: 890720.

20

AN 89228174. 89000.
AU Eley-J-W.
TI Analyzing *costs* and *benefits* of mammography *screening* in the workplace.
SO AAOHN-J. 1989 May. 37(5). P 171-7.
JT AAOHN JOURNAL.
LG English (EN).
AB Mammography is considered a very sensitive test for *breast* *cancer,* but all women with a positive mammogram will not have *breast* *cancer.* A more specific confirmatory test, a biopsy, is often the next recommended test for a woman with a positive mammogram. The utility of a *screening* test is influenced not only by the test characteristics, sensitivity, and specificity, but also by the prevalence of the condition in the population and the consequences of obtaining a positive result. *Benefits* may be calculated as reduction in mortality, reduction in morbidity, reduction in years of productive life lost, enhancement in quality of life, financial savings, or days of work saved. Risk factors for *breast* *cancer* include age, nulliparity, early onset of menstruation, late menopause, family history of *breast* *cancer,* late age of first childbirth, obesity, a high-fat diet, and certain types of benign *breast* disease. Author-abstract.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). MAMMOGRAPHY:
economics (ec). OCCUPATIONAL-HEALTH-SERVICES: economics (ec).
MN *BREAST-NEOPLASMS:* economics (ec), mortality (mo).
COST-BENEFIT-ANALYSIS. *COSTS-AND-COST-ANALYSIS.* FEMALE. HUMAN.
UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 8908.
ND ENTRY DATE: 890615.

21

AN 89202561. 89000.
AU Humphrey-L-L. Ballard-D-J.
IN Department of Internal Medicine and Preventive Medicine, Mayo Clinic,
Rochester, Minnesota.
TI Early detection of *breast* *cancer* in women.
SO Prim-Care. 1989 Mar. 16(1). P 115-32.
JT PRIMARY CARE; CLINICS IN OFFICE PRACTICE.
PT REVIEW (REV). REVIEW, TUTORIAL (TUT).
LG English (EN).
AB *Breast* self-exam, clinical *breast* exam and mammography are the
primary *screening* modalities for the early detection of *breast*
cancer. In this article, we review the epidemiology of *breast* *cancer*
and methodologic considerations in *screening* for *breast* *cancer.* For
each *screening* modality, we assess the evidence for its effectiveness
in reducing *breast* *cancer* mortality. For each modality we also
discuss the limitations, *cost/benefit* considerations, utilization,
and published recommendations for use. This article is intended to
facilitate primary care providers in decision-making regarding the
early detection of *breast* *cancer.* Author-abstract. 112 Refs.
MJ *BREAST-NEOPLASMS:* diagnosis (di).
MN *BREAST.* *BREAST-NEOPLASMS:* economics (ec), prevention-and-control
(pc). *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. MAMMOGRAPHY:
economics (ec). *MASS-SCREENING:* economics (ec), methods (mt).
PALPATION: economics (ec). TIME-FACTORS.
SB Priority Journals (M).
YR 1989.
IS 0095-4543. P99.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890516.
CLASS UPDATE: 90.

25

AN 88317768. 88000.
AU Valentin-J. Leitz-W.
IN National Institute of Radiation Protection, Stockholm, Sweden.

TI Mass *screening* for *breast* *cancer:* *benefits,* risks, *costs.*
 SO Med-Oncol-Tumor-Pharmacother. 1988. 5(2). P 77-83.
 JT MEDICAL ONCOLOGY AND TUMOR PHARMACOTHERAPY.
 LG English (EN).
 AB In general, mass *screening* for health is of doubtful value, but specific programmes like *breast* *cancer* *screening* could be beneficial. *Breast* *cancer* is the major cause of death in middle-aged women in many countries. Experience in Sweden shows that properly designed and performed mammography *screening* can reduce mortality by one-third, and lead to a better quality of life for treated *cancer* patients. However, if radiation causes damage proportional to the dose even at low doses, these *benefits* could be offset by radiogenic *cancers* in younger age groups (particularly under 40 yr of age). In Sweden, the direct *cost* of *screening* equals about 15 pounds sterling. Swedish authorities consider well designed *screening* justified. Optimization is necessary and involves design, technique, staff competence and organization. An optimized program should save one life in 100 in the screened cohort, while perhaps one life in 10,000 might be lost due to radiogenic *cancers* (with conventional radiation risk assumptions). Author-abstract.
 MJ *BREAST-NEOPLASMS:* epidemiology (ep). *MASS-SCREENING:* economics (ec).
 MN *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. MAMMOGRAPHY. RISK-FACTORS.
 SB Priority Journals (M).
 YR 1988.
 IS 0736-0118. LSP.
 CP ENGLAND (Z1.542.363.300).
 IM 8812.
 ND ENTRY DATE: 881004.
 CLASS UPDATE: 88.

26

AN 88119357. 88000.
 AU Eddy-D-M. Hasselblad-V. McGivney-W. Hendee-W.
 IN Center for Health Policy Research and Education, Duke University, Durham, NC 27706.
 TI The value of mammography *screening* in women under age 50 years.
 SO JAMA. 1988 Mar 11. 259(10). P 1512-9.
 JT JAMA.
 LG English (EN).
 AB Two quantitative methods, Confidence Profiles and CAN*TROL, are used to analyze evidence and estimate the health and economic consequences of adding annual mammography to annual *breast* physical examinations in asymptomatic women aged 40 to 49 years who are at average risk for *breast* *cancer.* Such women have about a 128 in 10,000 chance of having *breast* *cancer* in the next ten years and about an 82 in 10,000 chance of dying of such a *cancer.* Adding annual mammograms to annual *breast* physical examinations each year during that age decade would reduce the probability of death to about 60 in 10,000, a reduction of

about 26%. *Screening* would increase the expected lifetime of a woman destined to get *breast* *cancer* between ages 40 and 49 years by about 3.5 years. Ten years of *screening* with mammography in that age decade carries a risk of radiation-induced *cancer* of about one in 25,000 and a risk of a surgery recommendation for a lesion that is not *cancer* of about one in ten. If 25% of the women in this age group in the United States were screened every year, *breast* *cancer* mortality in the year 2000 would be decreased by about 373 deaths. In 1984 dollars, the *cost* of *screening,* workups, and continuing care in the year 2000 would be about \$408 million. Treatment *costs* would be decreased by about \$6 million, leaving a net increase in *costs* in the year 2000 of approximately \$402 million (1984 dollars).

Author-abstract.

MJ *BREAST-NEOPLASMS:* diagnosis (di). MAMMOGRAPHY.
 MN ADULT. AGE-FACTORS. *BREAST-NEOPLASMS:* mortality (mo).
 COST-BENEFIT-ANALYSIS. EVALUATION-STUDIES. FEMALE. HUMAN.
 MAMMOGRAPHY: economics (ec). *MASS-SCREENING:* economics (ec).
 MIDDLE-AGE. PHYSICAL-EXAMINATION: economics (ec), methods (mt).
 RISK. SUPPORT-NON-U-S-GOVT.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). *Cancer* Journals (X).
 YR 1988.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8805.
 ND ENTRY DATE: 880324.

28

AN 87318561. 87000.
 AU Moskowitz-M.
 TI *Costs* of *screening* for *breast* *cancer*.*
 SO Radiol-Clin-North-Am. 1987 Sep. 25(5). P 1031-7.
 JT RADIOLOGIC CLINICS OF NORTH AMERICA.
 LG English (EN).
 AB A *cost-benefit* analysis clearly shows that the *costs* for *screening* a large population of asymptomatic women are well within the *cost-benefit* range that is accepted for other areas within the medical care system. If profit and loss were the only considerations, one would opt for *screening* with combined examination for all women age 40 and older. If medical and philosophical considerations were to be included in the equation, clinical examination alone at any age cannot be justified. However, one might be able to justify mammography *screening.* Bierman has stated, "ultimately, when the scent is of flesh rather than figures, even the economist concedes that it will be important to insulate the individual practitioner (from *cost-benefit/cost-effectiveness* analysis) on a day-to-day basis because of potential conflict with the commitment to do what is best for each patient. Here is the crux. The economist's reference to the 'nation's health' is at best ambiguous and more likely meaningless. The physician's commitment to

the patient's health is neither of these: it is clear, undeniable, and profoundly meaningful." Reduction in *cancer* deaths is not easy to come by. When a method is available that can achieve this result, every effort should be made to make it available until it can be replaced satisfactorily by a less expensive, equally effective modality. Author-abstract.

MJ *BREAST-NEOPLASMS:* prevention-and-control (pc). *MASS-SCREENING:* economics (ec).
MN *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1987.
IS 0033-8389. QQ1.
CP UNITED-STATES (Z1.107.567.875).
IM 8712.
ND ENTRY DATE: 871009.

31

AN 87147013. 87000.
AU Carter-A-P. Thompson-R-S. Bourdeau-R-V. Andenes-J. Mustin-H. Straley-H.
IN Preventive Care Research, Group Health Cooperative of Puget Sound, Seattle, Washington 98112.
TI A clinically effective *breast* *cancer* *screening* program can be *cost-effective,* too.
SO Prev-Med. 1987 Jan. 16(1). P 19-34.
JT PREVENTIVE MEDICINE.
LG English (EN).
AB The logistics of complying with current American *Cancer* Society *breast* *cancer* *screening* recommendations in a large health maintenance organization, serving more than 50,000 women age 40 or older, are described. An alternative *screening* approach estimated to be at least as health-effective as the American *Cancer* Society recommendations has been developed and appears to solve the problem and is financially feasible. *Cost-effectiveness* depends on optimal use of mammography and health-care personnel resources. The authors show how the start-up and maintenance *costs* of an organized program can be offset by future *cost* savings resulting from reduced long-term disability in patients diagnosed at Stages 0-1 as opposed to Stages 2 and later. Careful selection of the delivery model before implementation can make a *breast* *cancer* *screening* program *cost-effective* as well as health-effective. Author-abstract.
MJ *BREAST-NEOPLASMS:* prevention-and-control (pc).
COST-BENEFIT-ANALYSIS. *MASS-SCREENING:* economics (ec).
MN ADULT. *BREAST-NEOPLASMS:* mortality (mo), pathology (pa). FEMALE. HEALTH-MAINTENANCE-ORGANIZATIONS. HUMAN. MIDDLE-AGE. PREGNANCY. PROSPECTIVE-STUDIES. RISK. WASHINGTON.
SB Priority Journals (M).
YR 1987.
IS 0091-7435. PM4.
CP UNITED-STATES (Z1.107.567.875).

IM 8706.
ND ENTRY DATE: 870413.
CLASS UPDATE: 90.

1

AN 91080065. 91041.
AU Westerman-R-F. Tesselaar-H-J. Donker-A-J.
IN Department of Medicine, Free University Hospital, Amsterdam, The Netherlands.
TI *Screening* *for* *hypertension* by volunteers in a middle-class community.
SO J-Hum-Hypertens. 1990 Aug. 4(4). P 330-3.
JT JOURNAL OF HUMAN *HYPERTENSION*.
PT JOURNAL ARTICLE (ART).
LG English (EN).
AB *Screening* *for* *hypertension* in citizens 30-69 years of age by trained volunteers was initiated by the community of a middle-class town in Holland. At the same time counselling on cardiovascular risk factors was offered to the public. The campaign ran smoothly and at low cost, resulting in 4% hypertensives detected. The population appeared to be well-informed about cardiovascular risk factors in general, but were ignorant of prevailing personal risk factors. Review of results after one and two years shows that a considerable number of identified patients are lost to follow-up in primary health care. It is concluded that an integrated approach *for* anticipatory care is required *for* both *screening* and patient management by primary health care teams. Author-abstract.
MJ *HYPERTENSION:* prevention-and-control (pc).
MN FEMALE. HEALTH-EDUCATION. HUMAN. *HYPERTENSION:* epidemiology (ep). MALE. *MASS-SCREENING.* NETHERLANDS: epidemiology (ep). RISK-FACTORS. SOCIOECONOMIC-FACTORS. VOLUNTARY-WORKERS.
SB Priority Journals (M).
YR 1990.
IS 0950-9240. JYT.
CP ENGLAND (Z1.542.363.300).
IM 9104.
ND ENTRY DATE: 910131.

2

AN 91038407. 91021.
AU Whelton-P-K.
IN Welch Center *for* Prevention, Epidemiology and Clinical Research, Johns Hopkins Medical Institutions, Baltimore, MD 21205.
TI Reflections on the U.S. Preventive Services Task Force recommendations *for* *screening* *for* *hypertension* and hypercholesterolemia.
SO J-Gen-Intern-Med. 1990 Sep-Oct. 5(5 Suppl). P S17-9.
JT JOURNAL OF GENERAL INTERNAL MEDICINE.
PT JOURNAL ARTICLE (ART).
LG English (EN).
AB The U.S. Preventive Services Task Force recommendations *for*

screening *for* *hypertension* and high blood cholesterol are generally consistent with preexisting national guidelines promulgated by the Joint National Committee *for* Detection, Evaluation, and Treatment of High Blood Pressure and the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Cholesterol in Adults. While a welcome addition to the armamentarium of the clinician, the Task Force recommendations represent only a partial solution to our current epidemic of blood-pressure- and cholesterol-related cardiovascular disease. A meaningful reduction in society's burden of cardiovascular disease can be achieved only by complementing the Task Force recommendations with community-based mass treatment strategies aimed at shifting the distribution of blood pressure and cholesterol toward a biologically more normal pattern. Author-abstract.

MJ HYPERCHOLESTEROLEMIA: prevention-and-control (pc). *HYPERTENSION:* prevention-and-control(pc). *MASS-SCREENING.*
MN BLOOD-PRESSURE-DETERMINATION. CHOLESTEROL: blood (bl).
HEALTH-PLANNING-GUIDELINES. HUMAN. RISK-FACTORS.
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES:
epidemiology (ep). UNITED-STATES-DEPT-OF-HEALTH-AND-HUMAN-SERVICES.
RN 57-88-5 -- Cholesterol.
SB Priority Journals (M).
YR 1990.
IS 0884-8734. JGI.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901219.
NO 5MO1RR00722.

4

AN 90120362. 90000.
AU Littenberg-B. Garber-A-M. Sox-H-C Jr.
IN Veterans Affairs Medical Center, Palo Alto, California.
TI *Screening* *for* *hypertension* `see comments:.
CM Comment in: Ann Intern Med 1990 May 15;112(10):796-7.
SO Ann-Intern-Med. 1990 Feb 1. 112(3). P 192-202.
JT ANNALS OF INTERNAL MEDICINE.
LG English (EN).
AB PURPOSE: To review the evidence on four questions about *screening* asymptomatic adults *for* arterial *hypertension:* Is *hypertension* a significant health problem? Is it detectable at an early, presymptomatic stage? Is treatment available and effective? Do the benefits of *screening* outweigh the costs and risks? DATA IDENTIFICATION AND SELECTION: We did a computerized search of the MEDLARS data base to identify community-based trials of drug therapy *for* mild *hypertension;* other relevant citations are included when appropriate. DATA SYNTHESIS: We approached the preliminary questions in our analysis by narrative review and argument. The estimates of therapeutic efficacy are based on previously published meta-analyses.

The cost-effectiveness of *screening* was addressed by formal mathematical modeling of the effect of *screening* on various U.S. populations. RESULTS OF ANALYSIS: *Hypertension* is clearly a significant health problem. It can be detected early, and effective treatment is available. *Screening* asymptomatic adults *for* *hypertension* has benefits that compare favorably to the risks and costs involved. According to our estimates, *screening* is most cost-effective *for* older adults compared with younger adults and *for* men compared with women and is highly sensitive to the cost of therapy *for* mild *hypertension.* CONCLUSIONS: We recommend *hypertension* *screening* *for* all adults. We also discuss the frequency and setting of *screening* activities. When a low-cost therapy is used, the cost-effectiveness of *screening* *for* *hypertension* compares favorably with other cardiovascular interventions. Author-abstract.

MJ *HYPERTENSION:* prevention-and-control (pc). *MASS-SCREENING.*
MN ADULT. ANTIHYPERTENSIVE-AGENTS: adverse-effects (ae),
therapeutic-use (tu). BLOOD-PRESSURE-DETERMINATION.
COST-BENEFIT-ANALYSIS. HUMAN. *HYPERTENSION:* complications (co),
economics (ec), epidemiology (ep). *MASS-SCREENING:* economics (ec).
META-ANALYSIS. PREVALENCE. SENSITIVITY-AND-SPECIFICITY.
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES: epidemiology (ep).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1990.
IS 0003-4819. 5A6.
CP UNITED-STATES (Z1.107.567.875).
IM 9004.
ND ENTRY DATE: 900216.
LAST REVISION DATE: 900730.
CLASS UPDATE: 90.
NO R29AG07651.

5

AN 90104958. 90000.
AU Chapman-P-J.
TI Dental office *screening* *for* *hypertension.*
SO Dent-J-Malays. 1986 May. 9(1). P 19-22.
JT DENTAL JOURNAL OF MALAYSIA.
LG English (EN).
AB Myocardial infarction and cerebrovascular accidents kill more people than all other causes of death combined, and *hypertension* is the single most important risk factor involved. From studies it is known that about 7% to 10% of adult dental patients will suffer previously unsuspected *hypertension* and which can be detected as a result of blood pressure *screening* programmes. Dentists can provide this valuable service in regard to total health care of their patients. Also by having base-line records of blood pressure *for* their patients and by maintaining competence in blood pressure measurement, a dentist is much better prepared to accurately assess and manage cases

of collapse which may occur at any time. Author-abstract.
MJ DENTAL-CARE. *HYPERTENSION:* prevention-and-control (pc).
MN HUMAN. *MASS-SCREENING.*
SB Dental Journals (D).
LI D.
YR 1986.
IS 0126-8023. AKY.
CP MALAYSIA (Z1.252.145.487).
IM 9004.
ND ENTRY DATE: 900209.

6

AN 90068323. 90000.
AU Kadous-H.
TI Opportunistic *screening* *for* *hypertension.*
SO Practitioner. 1989 Feb 22. 233(1463). P 225-6.
JT PRACTITIONER.
LG English (EN).
AB Opportunistic *screening* in hypertensive patients aged between 35 and 70 years is a part of good primary medical care. It can be done with very little time added to a routine consultation. More than 75 per cent of patients in each practice could be screened at least once in five years. Preventive medicine could be carried out as well, such as advice on diet, exercise habits, vaccination and cervical smears. Author-abstract.
MJ *HYPERTENSION:* prevention-and-control (pc). *MASS-SCREENING:* methods (mt).
MN ADULT. AGED. FAMILY-PRACTICE. GREAT-BRITAIN. HUMAN. MIDDLE-AGE.
YR 1989.
IS 0032-6518. PHQ.
CP ENGLAND (Z1.542.363.300).
IM 9003.
ND ENTRY DATE: 891227.

10

AN 89224708. 89000.
AU Hense-H-W. Keil-U.
IN GSF-Medis Institut, Neuherberg bei Munchen.
TI *Worksite-screenings* *for* *hypertension* with follow-up: experiences from the Munich Blood Pressure Program.
SO Soz-Praventivmed. 1989. 34(1). P 15-8.
JT SOZIAL- UND PRAVENTIVMEDIZIN.
LG English (EN).
AB In 1983/84, the Munich Blood Pressure Program (MBP) performed worksite *screenings* *for* arterial *hypertension* at 18 Munich companies. A participation of 51% (n = 7310) was achieved. After duplicate measurements of casual blood pressure 1084 participants were suspected of having actual *hypertension.* All suspected cases were invited *for* a reexamination to reduce the number of false-positive

hypertensives. Individuals with persisting *hypertension* after this *two-step-screening* were predominantly male, on the average younger than 50 years and showed a low level of antihypertensive drug treatment. About 75% of all detected hypertensives saw a family physician subsequent to the *screenings* *for* further management. Referrals and patient compliance were frequently reinforced by a computer based reminder system. A follow-up examination was performed among the MBP participants after two years. It showed that in 417 confirmed hypertensives of the primary *screenings* a marked increase in the proportion of treated and controlled hypertensives had occurred. This was true *for* younger and older hypertensives. Author-abstract.

MJ *HYPERTENSION:* epidemiology (ep). *MASS-SCREENING:* methods (mt). OCCUPATIONAL-HEALTH-SERVICES.
MN ADULT. BLOOD-PRESSURE-DETERMINATION. FEMALE. GERMANY-WEST. HUMAN. MALE. MIDDLE-AGE. POPULATION-SURVEILLANCE. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1989.
IS 0303-8408. YF1.
CP SWITZERLAND (Z1.542.883).
IM 8908.
ND ENTRY DATE: 890608.

13

AN 88082040. 88000.
AU Tuomilehto-J. Ram-P. Kapadia-V. Zimmet-P. Wolf-E.
IN Department of Epidemiology, National Public Health Institute, Helsinki, Finland.
TI Sequels to *screening* *for* *hypertension* and diabetes mellitus in Fiji.
SO Diabetes-Res-Clin-Pract. 1987 Nov. 4(1). P 15-22.
JT DIABETES RESEARCH AND CLINICAL PRACTICE.
LG English (EN).
AB We evaluated the outcome of a case-finding programme resulting from an epidemiological survey on diabetes and cardiovascular risk factors by re-interviewing 318 persons who had been found to have *hypertension* and/or diabetes mellitus in a population survey carried out in Fiji 1.5 years earlier in 1980. At re-examination, 34% of the hypertensive patients and 43% of the diabetic patients were not aware of their diagnosis. However, the proportion of treated hypertensive people was tripled and that of diabetic patients doubled. It was not possible to identify the characteristics of the persons who were missed in the follow-up. Many persons who were unaware of their condition regularly used, however, the existing health services available. On the other hand, several initially treated cases had no proper follow-up. More careful planning and development of comprehensive community-based programmes *for* *hypertension* and diabetes are needed in Fiji. Simple population *screening* *for* *hypertension* and diabetes may result in an extra work load and limit the available health care resources so that the overall outcome is not satisfactory. Author-abstract.

MJ DIABETES-MELLITUS: epidemiology (ep). DIABETIC-ANGIOPATHIES: epidemiology (ep). *HYPERTENSION:* epidemiology (ep).
 MN ADULT. COMPARATIVE-STUDY. DIABETES-MELLITUS: diagnosis (di), prevention-and-control (pc). DIABETIC-ANGIOPATHIES: diagnosis (di), prevention-and-control (pc). ETHNIC-GROUPS. FEMALE. FIJI. HUMAN. *HYPERTENSION:* diagnosis (di), prevention-and-control (pc). MALE. *MASS-SCREENING.* MIDDLE-AGE. RISK-FACTORS. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
 SB Priority Journals (M).
 YR 1987.
 IS 0168-8227. EBI.
 CP NETHERLANDS (Z1.542.651).
 IM 8804.
 ND ENTRY DATE: 880128.
 CLASS UPDATE: 88.
 NO R01AM25446.

15

AN 87215013. 87000.
 AU Difford-F. Telling-J-P. Davies-K-R. Fornear-J-E. Reading-C-A.
 TI Continuous opportunistic and systematic *screening* *for* *hypertension* with computer help: analysis of non-responders.
 SO Br-Med-J `Clin Res:. 1987 May 2. 294(6580). P 1130-2.
 JT BRITISH MEDICAL JOURNAL CLINICAL RESEARCH ED.
 LG English (EN).
 AB *For* two years an office computer was used to identify patients to prompt *for* opportunistic *screening* and call *for* systematic *screening.* After the two years 92% of patients on the list had had blood pressure readings recorded within the previous five years, of which 34% resulted from special prompts and 22% from *screening* letters. Those who failed to respond to letters were sent questionnaires, and their records were compared with those of screened patients. With the help of a microcomputer it is practicable to sustain a continuous *screening* rate of between 90% and 95%. Author-abstract.
 MJ COMPUTERS. *HYPERTENSION:* prevention-and-control (pc). *MASS-SCREENING:* methods (mt). MICROCOMPUTERS.
 MN ADULT. AGE-FACTORS. AGED. ATTITUDE-TO-HEALTH. FEMALE. HUMAN. MALE. *MASS-SCREENING:* economics (ec). MIDDLE-AGE. SEX-FACTORS. SOCIAL-CLASS.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1987.
 IS 0267-0623. B4X.
 CP ENGLAND (Z1.542.363.300).
 IM 8709.
 ND ENTRY DATE: 870709.
 CLASS UPDATE: 90.

16

AN 87027247. 87000.

AU Close-A. Hamilton-G. Muriss-S.
 TI Finger systolic pressure: its use in *screening* *for* *hypertension* and monitoring.
 SO Br-Med-J `Clin Res:. 1986 Sep 27. 293(6550). P 775-8.
 JT BRITISH MEDICAL JOURNAL CLINICAL RESEARCH ED.
 LG English (EN).
 AB A finger sphygmomanometer was compared with a mercury column sphygmomanometer *for* its ability to screen *for* *hypertension.* A total of 881 patients used each machine, both in initial *screening* and then *for* monitoring. The finger sphygmomanometer had a specificity of 98.5% in routine *screening* as compared with 97.6% *for* the mercury column device. Sensitivity of the finger device was 98.2%. These findings suggest that the finger sphygmomanometer using finger systolic pressure alone is adequate *for* *screening* and monitoring blood pressure. Author-abstract.
 MJ BLOOD-PRESSURE-DETERMINATION: methods (mt). FINGERS: blood-supply (bs). *HYPERTENSION:* diagnosis (di).
 MN COMPARATIVE-STUDY. HUMAN. MANOMETRY. MONITORING-PHYSIOLOGIC. PREDICTIVE-VALUE-OF-TESTS. SENSITIVITY-AND-SPECIFICITY. SUPPORT-NON-U-S-GOVT.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1986.
 IS 0267-0623. B4X.
 CP ENGLAND (Z1.542.363.300).
 IM 8702.
 ND ENTRY DATE: 861204.
 CLASS UPDATE: 90.

19

AN 86067826. 86000.
 AU Keil-U. Hense-H-W. Stieber-J.
 IN GSF, MEDIS Institute, Department of Epidemiology, Munich-Neuherberg.
 TI *Screening* *for* *hypertension:* results of the Munich Blood Pressure Program.
 SO Prev-Med. 1985 Jul. 14(4). P 519-31.
 JT PREVENTIVE MEDICINE.
 LG English (EN).
 AB The Munich Blood Pressure Program (MBP) is a community *hypertension* control program *for* the metropolitan area of Munich. It tries to improve "incidental *screening*" in doctors' offices in the city through continuing education programs *for* physicians and auxiliary personnel and, in addition, emphasizes worksite *screening* to bring high-risk hard-to-reach groups under treatment and control. Blood pressure (BP) is measured at the worksite under standardized conditions. Those with values greater than or equal to 140 mm Hg systolic BP and/or greater than or equal to 90 mm Hg diastolic BP at the first visit have BPs measured again within 1-5 days. If their BP values are still elevated, they are referred to their family

physicians *for* further assessment. At the same time, they are given a postage-paid card on which their doctors are asked to note the BP value measured in their offices. This postcard is returned to the MBP *for* evaluation. A computer-based reminder system informs all MBP participants at certain time intervals to have their BP checked. The text of the letters and the time interval between them depend on the most recent BP and treatment status data available to the MBP. In 1983, *screenings* were performed in seven firms. Participation rates of up to 57% were achieved *for* this entirely voluntary examination (3,948 participants). Age- and sex-specific prevalence rates *(for* the pooled data of the seven firms) were similar to those of a random sample of the Munich population (Munich Blood Pressure Study I). Seventy-four percent of those with elevated BP at first visit participated in the remeasurement at a second visit. Only 58% of these showed elevated BP values the second time. More than half (n = 101) of those second-visit hypertensives (greater than or equal to 160/95 mm Hg; n = 183) returned at least one completed postcard. The examining physician confirmed the hypertensive BP values in 60 of those cases. Of the 101, 57 were under treatment, 19 controlled and 38 uncontrolled. The follow-up period considered here lasted until May 1984 and varied from 5 to 15 months according to the date of *screening* in the respective firm. Only the first returned card has been evaluated thus far. Author-abstract.

MJ *HYPERTENSION:* prevention-and-control (pc). *MASS-SCREENING:* methods (mt).

MN ADULT. AGED. ALCOHOL-DRINKING. BLOOD-PRESSURE. BODY-WEIGHT. CORONARY-DISEASE: prevention-and-control (pc). CROSS-SECTIONAL-STUDIES. FEMALE. GERMANY-WEST. HUMAN. *HYPERTENSION:* diagnosis (di). MALE. MIDDLE-AGE. RISK. SOCIAL-ENVIRONMENT. SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1985.

IS 0091-7435. PM4.

CP UNITED-STATES (Z1.107.567.875).

IM 8603.

ND ENTRY DATE: 860103.

CLASS UPDATE: 90.

5

AN 90363538. 90000.

AU Szilagyi-A. Feledi-E. Csaba-I. Pejtsik-B.

IN Pecsí Orvostudományi Egyetem Szülészeti és Nőgyógyászati Klinika.

TI *`Screening* *for* *diabetes* in obese pregnant women:.

TT A gestatios *diabetes* szűrese elhízott terheseknél.

SO Orv-Hetil. 1990 Jul 22. 131(29). P 1585-8.

JT ORVOSI HETILAP.

PT REVIEW (REV). REVIEW, TUTORIAL (TUT).

LG Hungarian (HU).

AB Oral glucose tolerance testing (oGTT) was performed according to WHO criteria among obese pregnant women (body mass index greater than 28) who were recruited with the help of computerized pregnancy

counselling data base. oGTT was carried out *for* the first time between gestational ages of 16-20 weeks, and it was repeated monthly as far as possible. Gestational *diabetes* was diagnosed in 4 cases out of 50 obese patients. Two gestational diabetic patients needed insulin treatment. According to computerized data obese patients have significantly higher risk of having macrosomic infants and/or intrauterine death. Fasting blood glucose values of obese pregnant women were significantly higher in all the gestational ages. It is emphasized that obesity means a risk factor *for* gestational *diabetes,* but the onset of carbohydrate intolerance may be prevented or diagnosed as early as possible with the help of repeated oGTT during pregnancy and dietary counselling. In this way fetal complications, especially macrosomia will not develop. Author-abstract. 21 Refs.

MJ *OBESITY-IN-DIABETES:* diagnosis (di). OBESITY-MORBID: diagnosis (di).
PREGNANCY-IN-DIABETES: diagnosis (di).

MN BLOOD-GLUCOSE: analysis (an). ENGLISH-ABSTRACT. FEMALE.

FETAL-MACROSOMIA: prevention-and-control (pc). HUMAN.

MASS-SCREENING. *OBESITY-IN-DIABETES:* blood (bl). OBESITY-MORBID:
blood (bl). PREGNANCY. *PREGNANCY-IN-DIABETES:* blood (bl).

YR 1990.

IS 0030-6002. OL8.

CP HUNGARY (Z1.542.248.495).

IM 9012.

ND ENTRY DATE: 901004.

CLASS UPDATE: 90.

7

AN 90146921. 90000.

AU Gerken-K-L. Van-Lente-F.

IN Department of Biochemistry, Cleveland Clinic Foundation, OH 44195.

TI Effectiveness of *screening* *for* *diabetes.*

SO Arch-Pathol-Lab-Med. 1990 Feb. 114(2). P 201-3.

JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE.

LG English (EN).

AB We examined the patient records of 6445 patient visits to an executive health surveillance program to evaluate the diagnostic yield from *screening* *for* *diabetes* mellitus by measurement of fasting serum glucose and hemoglobin A1c. We found increased fasting serum glucose levels (greater than or equal to 6.6 mmol/L) in 3% (197/6445), of whom only half received further confirmatory testing. Increased *screening* values *for* glucose were associated with a 70% incidence of *diabetes* mellitus and impaired glucose tolerance when subsequent oral glucose tolerance tests were performed. Confirmatory testing with the oral glucose tolerance test was equivalent in cost and superior in diagnostic yield to repeated fasting glucose determination. Nonetheless, preferential use by clinicians of repeated glucose determination was found to contribute to underdiagnosis. Hemoglobin A1c could not reliably predict impaired or diabetic glucose tolerance. We conclude that maximal value of

screening *for* *diabetes* mellitus is achieved only by obligatory confirmatory oral glucose tolerance testing. Author-abstract.
 MJ *DIABETES-MELLITUS:* diagnosis (di). HEMOGLOBIN-A-GLYCOSYLATED: analysis (an).
 MN BLOOD-GLUCOSE: analysis (an). *DIABETES-MELLITUS:* blood (bl). FALSE-POSITIVE-REACTIONS. FOLLOW-UP-STUDIES. GLUCOSE-TOLERANCE-TEST. HUMAN.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1990.
 IS 0003-9985. 79Z.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9005.
 ND ENTRY DATE: 900309.

8

AN 90126265. 90000.
 AU Shima-K. Abe-F. Chikakiyo-H. Ito-N.
 IN Department of Laboratory Medicine, School of Medicine, University of Tokushima, Japan.
 TI The relative value of glycated albumin, hemoglobin A1c and fructosamine when *screening* *for* *diabetes* mellitus.
 SO *Diabetes-Res-Clin-Pract.* 1989 Nov 6. 7(4). P 243-50.
 JT *DIABETES* RESEARCH AND CLINICAL PRACTICE.
 LG English (EN).
 AB We compared the usefulness of three glycated serum proteins, glycated albumin (GA), glycated hemoglobin (HbA1c) and fructosamine (FA), *for* diabetic *screening* purposes. We measured these indices in 302 adults, most of whom underwent yearly physical examinations. We measured GA and HbA1c with high precision using high-performance liquid chromatography (interassay coefficients of variation 4.9 and 4.0%, respectively) and FA using commercial reagents (interassay coefficient of variation 1.65%). All the individuals underwent a 75-g oral glucose tolerance test, which revealed significant correlations between the values of the three glycated proteins and the four plasma glucose concentrations measured as well as the sum of these glucose concentrations, sigma BS (GA, $r = 0.80$; HbA1c, $r = 0.80$; FA, $r = 0.65$). On the basis of the test, 130 of the subjects were classified as normal (N), 123 as borderline and 49 as having *diabetes* mellitus (D) according to the criteria of the Japan *Diabetes* Society. Of the 123 borderline cases, 26 showed impaired glucose tolerance (IGT) according to the WHO criteria. The normal group values of GA, HbA1c and FA were $17.8 \pm 0.17\%$ (mean \pm SEM), $5.02 \pm 0.03\%$, and 2.55 ± 0.02 mM/l, respectively. Borderline and IGT subjects had significantly more GA and HbA1c than normal but not more FA (P less than 0.01). We divided the subjects into 10 groups on the basis of their sigma BS values; those with values higher than 671 ± 4.7 mg/dl had significantly more GA and HbA1c than normal, while those with values higher than 1068 ± 40.9 mg/dl (the most extreme cases) had significantly more FA.(ABSTRACT TRUNCATED AT 250 WORDS).

Author-abstract.

MJ BIOLOGICAL-MARKERS: blood (bl). *DIABETES-MELLITUS:* diagnosis (di).
HEXOSAMINES: blood (bl). SERUM-ALBUMIN: analysis (an).

MN ADULT. AGED. COMPARATIVE-STUDY. *DIABETES-MELLITUS:* blood (bl).
FEMALE. GLUCOSE-TOLERANCE-TEST. GLYCOSYLATION.
HEMOGLOBIN-A-GLYCOSYLATED: analysis (an). HUMAN. MALE. MIDDLE-AGE.
PHYSICAL-EXAMINATION.

RN 0 -- glycosylated-serum-albumin.
4429-04-3 -- fructosamine.

SB Priority Journals (M).

YR 1989.

IS 0168-8227. EBI.

CP NETHERLANDS (Z1.542.651).

IM 9005.

ND ENTRY DATE: 900301.

12

AN 89119944. 89000.

AU Swai-A-B. Harrison-K. Chuwa-L-M. Makene-W. McLarty-D.
Alberti-K-G.

IN Department of Medicine, University of Newcastle upon Tyne, UK.

TI *Screening* *for* *diabetes:* does measurement of serum fructosamine help?

SO Diabetic-Med. 1988 Oct. 5(7). P 648-52.

JT DIABETIC MEDICINE.

LG English (EN).

AB The diagnostic sensitivity and specificity *for* *diabetes* of serum fructosamine levels and fasting venous blood glucose concentrations were compared in 613 subjects during a *diabetes* community *screening* programme of 1049 adult Muslim Asians in Dar es Salaam, Tanzania. Using WHO (1985) criteria 228 had impaired glucose tolerance (IGT), 41 had previously been diagnosed as having *diabetes* while 32 had newly recognized *diabetes.* The mean (+/- SD) serum fructosamine levels were 20.9 +/- 3.2, 21.6 +/- 3.2, 23.9 +/- 4.9, and 30.1 +/- 7.9 (umol g-1 albumin) in subjects with normal glucose tolerance, IGT, newly diagnosed *diabetes,* and previously diagnosed *diabetes,* respectively (p less than 0.001 *for* differences between groups). The specificity of values above the mean +2SD normal was 99% *for* abnormal glucose tolerance with a sensitivity of only 22% *for* *diabetes.* The predictive values were 44% and 97% *for* positive and negative results, respectively. Very little difference from normal was found *for* IGT subjects. Expressing fructosamine values in absolute terms or per gram albumin made little difference to sensitivity and specificity. The sensitivity was only 32% *for* fasting blood glucose greater than or equal to 6.7 mmol l-1, 73% *for* values greater than or equal to 5.5 mmol l-1, and 100% *for* fasting blood glucose greater than or equal to 4.5 mmol l-1. It is concluded that both serum fructosamine and fasting blood glucose are poor *screening* and diagnostic tests *for* *diabetes* and *for* IGT, and that glucose loading is required.

Author-abstract.

MJ *DIABETES-MELLITUS:* diagnosis (di). HEXOSAMINES: blood (bl).

MN ADOLESCENCE. ADULT. BIOLOGICAL-MARKERS: blood (bl). BLOOD-GLUCOSE:

analysis (an). *DIABETES-MELLITUS:* blood (bl), epidemiology (ep).
FASTING. HUMAN. *MASS-SCREENING.* REFERENCE-VALUES.
SUPPORT-NON-U-S-GOVT. TANZANIA.

RN 4429-04-3 -- fructosamine.
SB Priority Journals (M).
YR 1988.
IS 0742-3071. DME.
CP ENGLAND (Z1.542.363.300).
IM 8905.
ND ENTRY DATE: 890323.

13

AN 89090453. 89000.
AU Forrest-R-D. Jackson-C-A. Yudkin-J-S.
IN Academic Unit of *Diabetes* and Endocrinology, Whittington Hospital,
London, UK.
TI The abbreviated glucose tolerance test in *screening* *for* *diabetes:* the
Islington *Diabetes* Survey.
SO Diabetic-Med. 1988 Sep. 5(6). P 557-61.
JT DIABETIC MEDICINE.
LG English (EN).
AB The World Health Organization has recommended a single 2-h
post-glucose load blood glucose level as a *screening* test *for*
diabetes mellitus in epidemiological surveys. We have assessed its
characteristics, when compared with a full supervised glucose
tolerance test (OGTT), in estimating prevalence, and in diagnosing
diabetes in the individual patient. A stratified sample of 223 of
1040 subjects who had participated in a diabetic survey that utilized
a single capillary 2-h blood glucose estimation as a *screening* test
were recalled *for* formal glucose tolerance testing. The numbers of
subjects with *diabetes* at *screening* and at recall were similar
(14/212, 6.6%; 13/216, 6.0%) but only 9 subjects were so classified
on both occasions. Thirty-five subjects (16.5%) were suspected of
having impaired glucose tolerance (IGT) at *screening,* and 52 (24.1%)
at recall. There was substantial reclassification from *screening*
IGT, with 3/35 worsening to *diabetes,* and 10/35 returning to normal.
Capillary 2-h glucose levels gave an accurate assessment of the
prevalence of *diabetes* but underestimated that of IGT. On the full
OGTT, little difference in classification was found when the values
of fasting and 1-h blood glucose were used in addition to those of
the 2-h blood glucose used alone. The 2-h glucose had a
within-subject coefficient of variation of 32.4% which produced
substantial reclassification of subjects with levels close to the
diagnostic levels *for* *diabetes,* and this implies that such
individuals should not be classified as having *diabetes* on the basis
of a single glucose tolerance test.(ABSTRACT TRUNCATED AT 250 WORDS).
Author-abstract.
MJ *DIABETES-MELLITUS:* diagnosis (di). GLUCOSE-TOLERANCE-TEST.
MN BLOOD-GLUCOSE: analysis (an). *DIABETES-MELLITUS:* blood (bl),
epidemiology (ep). FALSE-POSITIVE-REACTIONS. FASTING. HUMAN.

MASS-SCREENING: methods (mt). SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1988.
IS 0742-3071. DME.
CP ENGLAND (Z1.542.363.300).
IM 8904.
ND ENTRY DATE: 890223.

15

AN 88339132. 88000.
AU Singer-D-E. Samet-J-H. Coley-C-M. Nathan-D-M.
IN Massachusetts General Hospital.
TI *Screening* *for* *diabetes* mellitus.
SO Ann-Intern-Med. 1988 Oct 15. 109(8). P 639-49.
JT ANNALS OF INTERNAL MEDICINE.
PT REVIEW (REV). REVIEW, MULTICASE (RMC).
LG English (EN).
AB *Diabetes* mellitus in nonpregnant adults is a chronic affliction that leads to significant vascular and neuropathic disease. *Diabetes* during pregnancy can lead to perinatal complications. Both of these types of *diabetes* are common, often asymptomatic, and readily diagnosable by glucose tolerance testing. As a result, *screening* can identify many previously undiagnosed patients. However there is only limited evidence that *screening* results in net therapeutic benefit. In the case of gestational *diabetes,* controlled trials indicate that hypoglycemic therapy decreases the frequency of macrosomia, but has no effect on perinatal mortality. Our analyses indicate that *screening* *for* gestational *diabetes* is a low-cost intervention that produces a small expected benefit. *Screening* *for* *diabetes* in the nonpregnant adult (almost always a type II diabetic) is not recommended, because the link between improving glucose control and reducing diabetic complications is currently too weak. *Screening* might be reasonable *for* particular patients, *for* example, obese persons who would be spurred to lose weight by a demonstration of glucose intolerance. *Screening* *for* type I *diabetes* followed by immunomodulating therapy is still too experimental *for* confident analysis. Author-abstract. 137 Refs.
MJ *DIABETES-MELLITUS:* prevention-and-control (pc). *MASS-SCREENING.*
MN COST-BENEFIT-ANALYSIS. *DIABETES-MELLITUS:* diagnosis (di).
DIABETES-MELLITUS-INSULIN-DEPENDENT: prevention-and-control (pc).
DIABETES-MELLITUS-NON-INSULIN-DEPENDENT: prevention-and-control (pc).
FEMALE. HUMAN. *MASS-SCREENING:* economics (ec).
PREDICTIVE-VALUE-OF-TESTS. PREGNANCY. *PREGNANCY-IN-DIABETES:*
economics (ec), prevention-and-control (pc). SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0003-4819. 5A6.
CP UNITED-STATES (Z1.107.567.875).

IM 8812.
ND ENTRY DATE: 881027.
CLASS UPDATE: 90.

17

AN 88136408. 88000.
AU Forrest-R-D. Jackson-C-A. Yudkin-J-S.
IN Academic Unit of *Diabetes* and Endocrinology, Whittington Hospital,
London, UK.
TI *Screening* *for* *diabetes* mellitus in general practice using a
reflectance meter system. The Islington *Diabetes* Survey.
SO *Diabetes-Res.* 1987 Nov. 6(3). P 119-22.
JT *DIABETES* RESEARCH.
LG English (EN).
AB The feasibility of using a blood-glucose reflectance meter to
identify subjects with abnormal glucose tolerance in a
community-based *screening* programme *for* *diabetes* mellitus has been
assessed. 530 (51.0%) of 1,040 screened subjects had a finger-prick
capillary blood-glucose level estimated 2 h after a 75 g oral glucose
load. Blood-glucose estimations were performed on this sample by an
automated glucose-oxidase method and by a reflectance meter system
(Reflocheck, BCL (London) Ltd., Lewes, East Sussex, UK).
Blood-glucose values measured by the meter were found to be higher
than those assayed by the glucose-oxidase method by a mean ratio of
1.16:1. This overestimation could not wholly be explained by the
meter being calibrated to measure plasma- rather than whole
blood-glucose. This ratio was constant in specimens assayed by the
glucose-oxidase method within 24 h of sampling or within 7 days of
sampling. The meter system gave a good approximation of the
prevalence of DM in the sample (14 "diabetics" identified by the
meter, 15 by the glucose-oxidase 2hBG). The optimal test
characteristics of the meter 2hBG as a *screening* test *for* DM were at
a cut-off level of 9.7 mmol/l (sensitivity and specificity 98.4%, CI
85.8-100%, *for* sensitivity, 97.3-99.5% *for* specificity). However, in
order to be 100% sensitive *for* DM, confirmatory GTTs would be
necessary on all subjects with meter 2hBG greater than 9.5 mmol/l,
providing a specificity of 98.2% (CI 97.0-99.7%). The unit cost of
detecting 1 case of DM using a single meter became cheaper than using
the laboratory glucose-oxidase method when 143 subjects had been
screened. Author-abstract.
MJ BLOOD-GLUCOSE: analysis (an). *DIABETES-MELLITUS:* diagnosis (di).
MN AUTOANALYSIS. CAPILLARIES. *DIABETES-MELLITUS:* blood (bl). ENGLAND.
HUMAN. *MASS-SCREENING.* REAGENT-KITS-DIAGNOSTIC.
SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1987.
IS 0265-5985. DIA.
CP SCOTLAND (Z1.542.363.766).
IM 8806.

ND ENTRY DATE: 880407.

19

AN 87188740. 87000.

AU Jowett-N-I. Samanta-A-K. Burden-A-C.

IN Diabetic Unit, Leicester General Hospital, UK.

TI *Screening* *for* *diabetes* in pregnancy: is a random blood glucose enough?

SO Diabetic-Med. 1987 Mar-Apr. 4(2). P 160-3.

JT DIABETIC MEDICINE.

LG English (EN).

AB It has been suggested that a single random blood glucose measurement, timed in relation to food, can be used to determine those women needing a formal oral glucose tolerance test *for* the detection of gestational *diabetes.* One hundred and ten pregnancies have been screened to compare the results of a formal oral glucose tolerance test with timed venous plasma glucose measurements taken throughout the day. At the suggested thresholds of 6.1 mmol/l (within 2 h of eating) and 5.6 mmol/l (at greater than 2 h of food), random blood glucose testing is specific and excludes most normal women. However, the sensitivity of the test is low, and the majority of those with impaired glucose tolerance would be missed. Random blood glucose measurement is not a sufficiently sensitive method *for* detecting gestational *diabetes* as presently defined. Author-abstract.

MJ BLOOD-GLUCOSE: analysis (an). *PREGNANCY-IN-DIABETES:* diagnosis (di).

MN ADOLESCENCE. ADULT. COMPARATIVE-STUDY. FEMALE.

GLUCOSE-TOLERANCE-TEST. HUMAN. PREDICTIVE-VALUE-OF-TESTS.

PREGNANCY. *PREGNANCY-IN-DIABETES:* blood (bl). TIME-FACTORS.

SB Priority Journals (M).

YR 1987.

IS 0742-3071. DME.

CP ENGLAND (Z1.542.363.300).

IM 8708.

ND ENTRY DATE: 870612.

CLASS UPDATE: 90.

21

AN 86273871. 86000.

AU Weiner-C-P. Fraser-M-M. Burns-J-M. Schnoor-D. Herrig-J. Whitaker-L-A.

IN Department of Obstetrics and Gynecology, University of Iowa School of Medicine, Iowa City 52242.

TI Cost efficacy of routine *screening* *for* *diabetes* in pregnancy: 1-h versus 2-h specimen.

SO *Diabetes-Care.* 1986 May-Jun. 9(3). P 255-9.

JT *DIABETES* CARE.

LG English (EN).

AB Undetected gestational *diabetes* mellitus (GDM) is associated with a

two- to fivefold increase in perinatal morbidity and mortality. Widespread *screening* of the obstetric population (resulting in identification and treatment) should reduce these rates. Seven hundred ninety-eight women were examined during a 13-mo period of universal glucose challenge testing (GCT). A total of 2.8% of the population had an abnormal oral glucose tolerance test (OGTT). Thirty percent of those with an abnormal OGTT were less than 25 yr old. The specificity of a 1-h GCT (50-g carbohydrate load) using a threshold of either 140 or 150 mg/dl was compared with that of a 2-h specimen using a threshold of 118 mg/dl to determine whether the cost of *screening* could be reduced. One- and 2-h specimens were obtained in 347 of these women. A 34% reduction in the number of follow-up OGTTs required would have been achieved if a 2-h specimen had been used as the index instead of a 1-h specimen (P less than .05). As a result, the (direct and indirect) cost per patient identified with GDM would have declined 23.5%--from \$866 to \$662. No comment concerning the actual false-negative rate of either the 1- or 2-h GCT can be made because only select women underwent an OGTT. To assess the validity of the 2-h threshold, an OGTT was performed in an additional 190 women if either the 1- or 2-h screen was abnormal. The results were confirmatory: the 2-h screen would have reduced the cost per case identified by 32% in this small group. *Screening* on the basis of past medical history clearly lacked sensitivity and cost efficacy in comparison with the GCT and should be abandoned as a practice. Author-abstract.

MJ BLOOD-GLUCOSE: analysis (an). *MASS-SCREENING:* economics (ec).
 PREGNANCY-IN-DIABETES: blood (bl).
 MN ADOLESCENCE. ADULT. AGE-FACTORS. COST-BENEFIT-ANALYSIS. FEMALE.
 GLUCOSE-TOLERANCE-TEST. HUMAN. PREGNANCY. *PREGNANCY-IN-DIABETES:*
 epidemiology (ep). SUPPORT-NON-U-S-GOVT. TIME-FACTORS.
 SB Priority Journals (M).
 YR 1986.
 IS 0149-5992. EAG.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8611.
 ND ENTRY DATE: 860916.
 CLASS UPDATE: 90.

24

AN 86174500. 86000.
 AU Moses-R-G. Colagiuri-S. Shannon-A-G.
 IN Illawarra Area Health Service, Wollongong, NSW.
 TI Effectiveness of mass *screening* *for* *diabetes* mellitus using random
 capillary blood glucose measurements.
 SO Med-J-Aust. 1985 Dec 9-23. 143(12-13). P 544-6.
 JT MEDICAL JOURNAL OF AUSTRALIA.
 LG English (EN).
 AB The results of 23 228 finger-prick capillary blood glucose tests (the
 taking of which was coordinated by the Diabetic Association of New

South Wales) were reviewed. All non-diabetic persons (n = 860) with a blood glucose result of greater than or equal to 8.0 mmol/L were surveyed and 459 responded (53.4%). The responders were typical of the surveyed group with respect to age and capillary blood glucose level. Sixty-four new cases of *diabetes* were detected, representing 15.8% of the replies from persons who were not known to have *diabetes* and 0.28% of the total number of persons screened. Author-abstract.

MJ BLOOD-GLUCOSE: analysis (an). *DIABETES-MELLITUS:* epidemiology (ep). *MASS-SCREENING:* standards (st).

MN AGE-FACTORS. CAPILLARIES. *DIABETES-MELLITUS:* diagnosis (di). FEMALE. HUMAN. MALE. *MASS-SCREENING:* methods (mt). MIDDLE-AGE.

SB Priority Journals (M). Cancer Journals (X).

YR 1985.

IS 0025-729X. M26.

CP AUSTRALIA (Z1.338).

IM 8607.

ND ENTRY DATE: 860509.

CLASS UPDATE: 88.

3

AN 91215283. 91082.

AU Essex-B. Bate-J.

IN Sydenham Green Health Centre, London.

TI Audit in general practice by a receptionist: a feasibility study.

SO BMJ. 1991 Mar 9. 302(6776). P 573-6.

JT BMJ.

PT JOURNAL ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To examine whether audit can be done *cost* effectively by a practice's receptionist. DESIGN--The practice set goals for various aspects of care, and forms were devised for the receptionist to collect, analyse, and present data to assess whether these goals had been achieved in the previous year. SETTING--Six doctor practice in south London looking after 11,500 patients. MAIN OUTCOME MEASURES--Ability of receptionist to present data showing the level of attainment of the practice's goals; time spent on audit by receptionist each week. RESULTS--The practice set goals for immunisation; follow up of patients with abnormal cervical smears; frequency of recording of *blood* *pressure* and smoking habit; *screening* of patients over 75; care of diabetic patients and patients with serious mental illness; antenatal care; variations in workload; and availability of appointments. The receptionist was able to audit all these tasks in four hours a week; this increased her job satisfaction and extended her skills. A small amount of regular supervision was necessary--roughly 30 minutes a week in the first year of the study and 30 minutes a fortnight in the second--to ensure accuracy and deal with any difficulties that arose. CONCLUSION--The method developed enabled a receptionist to audit aspects of the practice *cost* effectively. There is great scope for enlarging the conventional role of the receptionist. Author-abstract.

MJ FAMILY-PRACTICE: standards (st). MEDICAL-AUDIT: methods (mt).
 MEDICAL-RECEPTIONISTS.
 MN *COST-BENEFIT-ANALYSIS.* DATA-COLLECTION: methods (mt).
 FEASIBILITY-STUDIES. HUMAN. LONDON. PREVENTIVE-HEALTH-SERVICES:
 standards (st). TIME-FACTORS.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.
 IS 0959-8138. BMJ.
 CP ENGLAND (Z1.542.363.300).
 IM 9108.
 ND ENTRY DATE: 910603.

4

AN 91187290. 91072.
 AU OHagan-J.
 IN Christchurch School of Medicine.
 TI The ethics of informed consent in relation to prevention *screening*
 programmes.
 SO N-Z-Med-J. 1991 Mar 27. 104(908). P 121-3.
 JT NEW ZEALAND MEDICAL JOURNAL.
 PT CLINICAL TRIAL (CTR). JOURNAL ARTICLE (ART).
 LG English (EN).
 MJ ETHICS-MEDICAL. INFORMED-CONSENT. *MASS-SCREENING:* standards (st).
 TRUTH-DISCLOSURE.
 MN ADULT. AGED. *BLOOD-PRESSURE-DETERMINATION:* economics (ec).
 CHOLESTEROL: *blood* (bl). COMPARATIVE-STUDY. *COST-BENEFIT-ANALYSIS.*
 EVALUATION-STUDIES. FEMALE. HUMAN. LIFE-EXPECTANCY. MALE.
 MAMMOGRAPHY: economics (ec), standards (st). *MASS-SCREENING:*
 economics (ec), methods (mt). MIDDLE-AGE. RISK-FACTORS.
 RN 57-88-5 -- Cholesterol.
 SB Priority Journals (M).
 YR 1991.
 IS 0028-8446. OBQ.
 CP NEW-ZEALAND (Z1.730).
 IM 9107.
 ND ENTRY DATE: 910503.

7

AN 90381991. 90000.
 AU Rosenberg-K. Twaddle-S.
 TI *Screening* and surveillance of pregnancy hypertension--an economic
 approach to the use of daycare.
 SO Baillieres-Clin-Obstet-Gynaecol. 1990 Mar. 4(1). P 89-107.
 JT BAILLIERES CLINICAL OBSTETRICS AND GYNAECOLOGY.
 LG English (EN).
 AB Frequent measurement of *blood* *pressure* is an accepted part of routine
 outpatient antenatal care. Women found to have mild hypertension may
 be further monitored for signs of progressive disease, while women
 with proteinuria or severe hypertension may be admitted for more

intensive surveillance or treatment. In practice, the course and ultimate severity of this disorder are unpredictable and women with mild hypertension are frequently admitted. Recently, daycare has grown as an option for assessing women with hypertension as it offers the advantage of more extensive evaluation than is possible at an outpatient clinic and is widely assumed to be more *cost-effective* than conventional management. However, its use in obstetrics has not been subject to a formal economic appraisal. Such an evaluation is currently being carried out in two hospitals in Scotland, one of which uses daycare and inpatient admissions in the management of hypertension and one of which uses domiciliary midwife visits as well as hospital beds. Preliminary results suggest that the pregnancy outcome in terms of birthweight, gestation at delivery, admission to a special unit, etc., are the same in the two units for women with mild hypertension (diastolic 90-99 mmHg, no proteinuria). The *costs* per patient were less in the hospital with a daycare unit. These lower individual *costs,* however, do not mean that the overall *costs* to the health service are less in a hospital with daycare. This will depend on the average number of visits to daycare for women with mild hypertension, the proportion of hypertensive women receiving daycare, whether freed inpatient beds are closed or redeployed, and the capital *costs* of establishing a day unit. Data has also been collected on women's *costs* and views which will ultimately be presented and should play a part in any decision to implement or continue daycare. Author-abstract.

MJ DAY-CARE: standards (st). HYPERTENSION: therapy (th).

MASS-SCREENING: standards (st).

PREGNANCY-COMPLICATIONS-CARDIOVASCULAR: therapy (th).

MN *COST-BENEFIT-ANALYSIS.* DAY-CARE: economics (ec). DECISION-TREES. FEMALE. HUMAN. HYPERTENSION: mortality (mo), prevention-and-control (pc). *MASS-SCREENING:* economics (ec). ORGANIZATIONAL-OBJECTIVES. PATIENT-ADMISSION: statistics-and-numerical-data (sn). PREGNANCY. PREGNANCY-COMPLICATIONS-CARDIOVASCULAR: mortality (mo), prevention-and-control (pc). PREGNANCY-OUTCOME. PRENATAL-CARE: organization-and-administration (og), standards (st). PROGRAM-EVALUATION. SCOTLAND. SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1990.

IS 0950-3552. DFO.

CP ENGLAND (Z1.542.363.300).

IM 9012.

ND ENTRY DATE: 901019.

CLASS UPDATE: 90.

8

AN 90340214. 90000.

AU Hurley-S.

IN Anti-Cancer Council of Victoria.

TI A review of *cost-effectiveness* analyses.

SO Med-J-Aust. 1990 Aug 6. 153 Suppl. P S20-3.

JT MEDICAL JOURNAL OF AUSTRALIA.

LG English (EN).

AB A large number of *cost-effectiveness* analyses has been published over the last 16 years. *Cost-effectiveness* ratios *(costs* per year of life gained or quality adjusted year of life gained) derived through *cost-effectiveness* analysis can be used to compare the efficiency of different health-care programmes, although such comparisons should be made cautiously because of the uncertainties associated with many estimates of *cost* and effectiveness. Considering cardiovascular disease control programmes, for example, some preventive strategies, such as advice to quit smoking, or exercise programmes, are more *cost-effective* than antihypertensive treatment or coronary artery bypass grafting. However, cholestyramine therapy for prevention of coronary heart disease is less *cost-effective* than either of these treatments, and there are marked variations in the *cost-effectiveness* of many interventions, with factors such as the age group treated, frequency of treatment and level of parameters such as diastolic *blood* *pressure,* playing a role. Cancer control programmes are also considered in this paper. *Cost-effectiveness* analysis can be useful for assessing the relative *costs* and effectiveness of different programmes, but all relevant factors for policy-making and resource allocation can rarely be incorporated in a single analysis.
Author-abstract.

MJ CARDIOVASCULAR-DISEASES: economics (ec). *COST-BENEFIT-ANALYSIS:* methods (mt). NEOPLASMS: economics (ec).
PREVENTIVE-HEALTH-SERVICES: standards (st).

MN ADULT. AGED. CARDIOVASCULAR-DISEASES: mortality (mo), prevention-and-control (pc). DRUG-THERAPY: economics (ec), standards (st). ECONOMIC-VALUE-OF-LIFE. FEMALE. HUMAN. MALE.
MASS-SCREENING: economics (ec), standards (st). MIDDLE-AGE. NEOPLASMS: mortality (mo), prevention-and-control (pc).
PREVENTIVE-HEALTH-SERVICES: economics (ec). QUALITY-OF-LIFE. SURVIVAL-RATE.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0025-729X. M26.

CP AUSTRALIA (Z1.338).

IM 9011.

ND ENTRY DATE: 900907.

CLASS UPDATE: 90.

10

AN 89180272. 89000.

AU McDowell-I. Newell-C. Rosser-W.

IN Health Care Research Unit, University of Ottawa, Ontario, Canada.

TI A randomized trial of computerized reminders for *blood* *pressure*
screening in primary care.

SO Med-Care. 1989 Mar. 27(3). P 297-305.

JT MEDICAL CARE.

PT CLINICAL TRIAL (CTR).

LG English (EN).

AB In a randomized, controlled trial (N = 8,298) the authors compared three ways of encouraging patients in a large family practice to obtain a *blood* *pressure* check. Working from computerized medical records at a teaching family-medicine center, the study included patients aged 18 years and over who had not had a *blood* *pressure* measurement during the previous year. In a normal-care control group, 21.1% of those due for a *blood* *pressure* reading obtained one during the trial year. In one intervention group, a computer-generated message reminded the doctor to check the *blood* *pressure* of patients who happened to visit the center for an appointment; 30.7% of patients allocated to this group were checked. In the second group, the nurse contacted patients by telephone and encouraged 24.1% of those who were due for a check to obtain one. Sending a letter to patients in the third group yielded a 35.7% compliance rate. Considering the *costs* of the three interventions, the physician reminder was the most *cost* effective, followed by the letter reminder. Although statistically significant, the impact of the reminders was modest. A better approach might involve a combination of routine reminders to the physician, followed by letters to noncompliant patients. Author-abstract.

MJ AMBULATORY-CARE-INFORMATION-SYSTEMS. *BLOOD-PRESSURE-DETERMINATION.* HYPERTENSION: prevention-and-control (pc). INFORMATION-SYSTEMS. PATIENT-COMPLIANCE. PRIMARY-HEALTH-CARE.

MN ADOLESCENCE. ADULT. AGED. CLINICAL-TRIALS. COMPARATIVE-STUDY. *COST-BENEFIT-ANALYSIS.* FEMALE. HUMAN. MALE. MEDICAL-RECORDS. MIDDLE-AGE. ONTARIO. OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. PHYSICIANS. POSTAL-SERVICE. RANDOM-ALLOCATION. SUPPORT-NON-U-S-GOVT. TELEPHONE.

SB Priority Journals (M).

YR 1989.

IS 0025-7079. LSM.

CP UNITED-STATES (Z1.107.567.875).

IM 8907.

ND ENTRY DATE: 890424.

CLASS UPDATE: 90.

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7. Developmental ,mfeasibility, or pilot studies

The first step in ascertaining the feasibility of conducting long-term research on the health effects of the radiation from the accident requires the enumeration of the population. Thus the composition of the proposed study population must be described, numbers, age distribution, extent of exposure through directed, biological, physical or geographical reconstruction.

Existing research will be evaluated by documentation providing the following types of information to be reviewed by the Consortium's Scientific Council;

1. Past research training record for both the program and the designated preceptors in terms of the rate at which former trainees establish independent and productive research careers
2. Past research training record in terms of the success of former trainees in obtaining individual awards such as fellowships, career awards, and research grants for further development
3. Objectives, design, and direction of the research training program
4. Caliber of preceptors as researchers including successful competition for research support
5. Training environment including the institutional commitment, the quality of the facilities, and the availability of research support
6. Recruitment and selection plans for appointees and the availability of high quality candidates
7. The record of the research training program in retaining health-professional post-doctoral trainees for at least two years in research training or other research activities
8. When appropriate, the concomitant training of health-professional post-doctorates (e.g., individuals with the M.D., D.O., D.D.S.) with basic science post-doctorates (e.g., individuals with a Ph.D., Sc.D.) will receive special consideration

Following scientific-technical review, the application will receive a second-level review by the appropriate National Advisory Council.

AWARD CRITERIA

Applications recommended for approval by the appropriate National
--more-- Press [space] to continue, [q] to quit Advisory Council will be considered for funding on the basis of overall scientific and technical merit of the research as determined by peer review, program needs and balance, and availability of funds.

INQUIRIES

Written and telephone inquiries concerning this PA are encouraged. The opportunity to clarify any issues or questions from potential applicants is welcome.

Direct inquiries regarding programmatic issues to:

Grayson S. Norquist, M.D., M.S.P.H.
Deputy Director, Division of Epidemiology and Services Research
National Institute of Mental Health
Parklawn Building, Room 18C-26
5600 Fishers Lane
Rockville, MD 20857
Telephone: (301) 443-3683

--more-- Press [space] to continue, [q] to quit BRIEF SUMMARY OF ESSENTIAL
INFORMATION FOR THE PREPARATION OF AN
--more-- Press [space] to continue, [q] to quit APPLICATION. POTENTIAL APPLICANTS
SHOULD OBTAIN THE RFA AND THE
ENVIRONMENTAL HEALTH SCIENCES CENTER GRANT APPLICATION GUIDELINES FROM
THE CONTACT NAMED IN INQUIRIES, BELOW.

PURPOSE

The overall intent of this National Institute of Environmental Health Sciences (NIEHS) program is to establish multi-disciplinary research programs supported by a core center (P30). The focus is on environmentally related health problems of economically disadvantaged and/or underserved populations. The first step in this process is the current RFA that requests developmental grant (P20) applications from institutions or consortia of institutions wishing to develop multi-disciplinary core center (P30) grants with this theme.

This RFA has a single receipt date, September 4, 1992. However, the NIEHS intends to announce additional receipt dates for developmental grants on this theme periodically.

HEALTHY PEOPLE 2000

--more-- Press [space] to continue, [q] to quit
The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2000," a PHS-led national activity for setting priority areas. This RFA, Developmental Grant: Environmental Health Sciences Centers, is related to the priority area of environmental health. Potential applicants may obtain a copy of "Healthy People 2000" (Full Report: Stock No. 017-001-00474-0) or "Healthy People 2000" (Summary Report: Stock No. 017-001-00473-1) through the Superintendent of Documents, Government Printing Office, Washington DC 20402-9325 (telephone 202-783-3238).

ELIGIBILITY REQUIREMENTS

Applications may be submitted by domestic for-profit and non-profit organizations, public and private. Applications from minority individuals and women are encouraged.

MECHANISM OF SUPPORT

This RFA will use the National Institutes of Health (NIH) exploratory
--more-- Press [space] to continue, [q] to quit grant (P20). The maximum requested amount of each application may not exceed \$175,000 direct cost per year. The total project period may not exceed three years. It is estimated that approximately one to three awards will be made.

It is important to note that the award of a developmental grant by the NIEHS does not imply a commitment to future funding of any resulting research or center grant applications. These must be submitted separately and will be evaluated on the basis of their own merit. The core center (P30) grant requires a research grant base of at least \$1,000,000 of outside peer reviewed awards related to environmental health problems, particularly focusing on economically disadvantaged and/or underserved populations. Therefore, it will require a substantial effort during the award period of the P20 grant to achieve the level of research support base necessary to qualify and compete successfully for a core center grant.

FUNDS AVAILABLE

The funding level for NIEHS developmental grants will be \$175,000
--more-- Press [space] to continue, [q] to quit direct costs per year for a maximum of three years. It is anticipated that one to three developmental grants will be awarded depending upon the appropriation of funds for this purpose and the quality of the applications received. The awards are not renewable and supplements are not allowed.

RESEARCH OBJECTIVES

Most Americans want to live long and healthy lives, and the majority achieve that goal. In general, however, economically disadvantaged and/or underserved populations are less likely to achieve this goal. At every stage of life, these populations suffer disproportionate levels of morbidity and mortality.

The primary purpose of the NIEHS developmental grants will be to provide support for a group of investigators to develop interdisciplinary collaborations and strategies, to obtain preliminary results to demonstrate ^[[7mfeasibility^[m, and to develop a research program addressing the above-cited PURPOSE of the NIEHS in this RFA. The resulting program will then be used as the basis for an application for
--more-- Press [space] to continue, [q] to quit other NIEHS project grants and ultimately a core center grant (P30).
The objectives for an NIEHS developmental grant may include, but are not limited to:

- o Preliminary or ^[[7mfeasibility^[m studies to gather sufficient data to

demonstrate the potential of an idea or the validity of an approach, to acquire or demonstrate technical competence, or to evaluate other technical factors involved in the development of a project that addresses the goal of this initiative;

- o Recruitment of new investigators whose expertise would strengthen the overall research project base in a subsequent core center grant application;

- o Inter- or intra-institutional planning to develop research strategies, including the establishment of a timetable or milestones, for the development of grant applications that are prerequisite for the NIEHS Core Center grant application.

STUDY POPULATIONS

--more-- Press [space] to continue, [q] to quit

SPECIAL INSTRUCTIONS FOR INCLUSION OF WOMEN AND MINORITIES IN CLINICAL RESEARCH STUDIES

For projects involving clinical research, NIH requires applicants to give special attention to the inclusion of women and minorities in study populations. If women or minorities are not included in the study populations for clinical studies, a specific justification for this exclusion must be provided. Applications without such documentation will not be accepted for review.

LETTER OF INTENT

Prospective applicants are asked to submit, by August 14, 1992, a letter of intent that includes a descriptive title of the proposed research, the name, address, and telephone number of the Principal Investigator, the identities of other key personnel and participating institutions, and the number and title of the RFA in response to which the application may be submitted.

--more-- Press [space] to continue, [q] to quit to as Fogarty International Research Collaboration Awards (FIRCAs) to

U.S. grantee institutions to facilitate cooperation and collaboration between U.S. scientists and scientists in Central and Eastern Europe, Latin America, and the non-U.S. Caribbean. This announcement expands the FIRCA program to include cancer-related collaborative research with scientists located in Sub-Saharan Africa. This new effort is supported by the National Cancer Institute (NCI). FIRCAs provide funds to foreign collaborators, through the U.S. grantee institution, for equipment and supplies at their home institution, and for travel expenses for both the U.S. Principal Investigator and the foreign collaborator. These awards are intended to support the new and expanded research efforts of U.S. scientists who are Principal Investigators of currently funded National Institutes of Health (NIH) research project grants on the general scientific subject of the

proposed collaboration.

ELIGIBILITY REQUIREMENTS

U.S. scientists who are Principal Investigators of NIH research project grants (R series, P series, or U-01 series) that will be --more-- Press [space] to continue, [q] to quit active and funded during the proposed grant award period (up to three years) are eligible. The small grants will be made for work conducted in cooperation with scientists only in countries located in the geographical regions commonly known as Central and Eastern Europe (including the former USSR and the Baltic Republics), Latin America, the non-U.S. Caribbean, and for cancer-related research, Sub-Saharan Africa. The foreign collaborator must hold a position at a public or private non-profit institution that will allow him or her adequate time and provide appropriate facilities to conduct the proposed research.

MECHANISMS OF SUPPORT

The small grants (R03) will provide up to \$20,000 per year for up to three years in direct costs. Funds may be used for materials, supplies, and equipment for the foreign scientist's research laboratory and for travel expenses for the Principal Investigator and/or the foreign collaborator and their research associates, as justified by the scientific needs of the project. No salaries or stipends for any of the collaborators, students, or technical --more-- Press [space] to continue, [q] to quit assistants will be offered under these awards. Applicants must request support to conduct research not already being supported by the U.S. investigator's research grant; however, the research proposal should be an extension of or related to the currently funded research project. The awards will be made to U.S. institutions, which will be responsible for the expenditures. The minimum small grant project period will be for one year; the maximum will be for three years. Indirect costs will be calculated on the basis of the off-site rates of the U.S. sponsoring institution. The award of this small grant is non-renewable, and the NIH awarding unit of the "parent" grant is under no obligation to continue support for the foreign research component as a component of a recompetiting "parent" grant.

RESEARCH OBJECTIVES

The main objective of this program is to facilitate collaborative research efforts between U.S. and foreign scientists that will expand and enhance the NIH-supported research program of the U.S. Principal Investigator, while at the same time benefiting the scientific --more-- Press [space] to continue, [q] to quit interests of the collaborating foreign scientist. These small grants

will provide funds to purchase supplies, materials, and small equipment items necessary to conduct the collaborative research in the foreign scientist's research laboratory at a non-profit public or private institution in the eligible countries. These awards will also provide travel support, as necessary to conduct the collaborative research effort, for the U.S. and/or the foreign collaborator(s). All biomedical and behavioral research topics supported by the NIH are eligible for inclusion under this program in Central and Eastern Europe, Latin America, and the non-U.S. Caribbean. Research collaboration with scientists in Sub-Saharan Africa is limited to cancer-related research only. The U.S. Principal Investigator must show evidence of ongoing NIH research support in areas related to the small grant application, and this support must be available during the entire proposed small grant award period. The application must demonstrate that the effort will enhance the scientific contributions of both the U.S. and foreign scientists and strengthen the contribution to the NIH-sponsored research effort.

--more-- Press [space] to continue, [q] to quit STUDY POPULATIONS

SPECIAL INSTRUCTIONS TO APPLICANTS REGARDING IMPLEMENTATION OF NIH POLICIES CONCERNING INCLUSION OF WOMEN AND MINORITIES IN CLINICAL RESEARCH STUDY POPULATIONS

NIH policy is that applicants for NIH clinical research grants and cooperative agreements are required to include minorities and women in study populations so that research finding can be of benefit to all persons at risk of the disease, disorder or condition under study; special emphasis must be placed on the need for inclusion of minorities and women in studies of diseases, disorders and conditions which disproportionately affect them. This policy is intended to apply to males and females of all ages. If women or minorities are excluded or inadequately represented in clinical research, particularly in proposed population- based studies, a clear compelling rationale must be provided.

The composition of the proposed study population must be described in terms of gender and racial/ethnic group. In addition, gender and --more-- Press [space] to continue, [q] to quit racial/ethnic issues should be addressed in developing a research design and sample size appropriate for the scientific objectives of the study. This information must be included in the form PHS 398 (rev. 9/91) in Sections 1-4 of the Research Plan AND summarized in Section 5, Human Subjects. Applicants are urged to assess carefully the feasibility of including the broadest possible representation of minority groups. However, NIH recognizes that it may not be feasible or appropriate in all research projects to include representation of the full array of United States racial/ethnic minority populations (i.e., Native Americans (including American Indians or Alaskan

Natives), Asian/Pacific Islanders, Blacks, Hispanics). The rationale for studies on single minority population groups must be provided.

For the purpose of this policy, clinical research is defined as human biomedical and behavioral studies of etiology, epidemiology, prevention (and preventive strategies), diagnosis, or treatment of diseases, disorders or conditions, including but not limited to clinical trials.

The usual NIH policies concerning research on human subjects also --more-- Press [space] to continue, [q] to quit apply. Basic research or clinical studies in which human tissues cannot be identified or linked to individuals are excluded. However, every effort should be made to include human tissues from women and racial/ethnic minorities when it is important to apply the results of the study broadly, and this should be addressed by applicants.

If the required information is not contained within the application, the review will be deferred until the information is provided.

Peer reviewers will address specifically whether the research plan in the application conforms to these policies. If the representation of women of minorities in a study design is inadequate to answer the scientific questions(s) addressed AND the justification for the selected study population is inadequate, it will be considered a scientific weakness or deficiency in the study design and will be reflected in assigning the priority score to the application.

All applications for clinical research submitted to NIH are required to address these policies. NIH funding components will not award grants or cooperative agreements that do not comply with these --more-- Press [space] to continue, [q] to quit policies.

APPLICATIONS PROCEDURES

Applications are to be submitted by the U.S. Principal Investigator on the standard grant application form PHS 398 (rev. 9/91), available at most institutional offices of sponsored research and from the Office of Grants Inquiries, Division of Research Grants, National Institutes of Health, 5333 Westbard Avenue, room 449, Bethesda, MD 20892, telephone (301) 496-7441. The deadlines for receipt of applications are October 1, February 1, and June 1 of each year. Special instructions are necessary and are available from the address below. Credentials for the foreign collaborators must be included with the application and the collaborative arrangements described in a letter signed by both investigators. Applicants must list the active NIH research grant(s) that will be held during the proposed project period of this award. The foreign laboratory collaborating with the Principal Investigator of the small grant must be located in the countries of Central and Eastern Europe (including the former

USSR and the Baltic Republics), Latin America, the non-U.S. Caribbean
--more-- Press [space] to continue, [q] to quit and for cancer-related research,
Sub-Saharan Africa.

The title and number of the announcement must be typed on line 2a of
the face page of the application. The complete original and five
legible copies must be sent or delivered to:

Division of Research Grants
National Institutes of Health
Westwood Building, Room 240
Bethesda MD 20892**

REVIEW PROCEDURES

Applications will be assigned for review to, and awards will be made
by, the FIC, utilizing the customary NIH peer review process.
Scientific and technical merit will be evaluated by a Fogarty
International Center initial review group. Second level review will
be provided by the Fogarty International Center Advisory Board.

AWARD CRITERIA

--more-- Press [space] to continue, [q] to quit
Initial award decisions will be announced within a month following
each board meeting and will be based on the scientific merit of the
applications and the availability of funds.

INQUIRIES

Direct inquiries regarding programmatic issues and requests for the
guidelines to:

Dr. Mirilee Pearl
International Research and Awards Branch
Fogarty International Center
Building 31, Room B2C21
Bethesda, MD 20892
Telephone: (301) 496-1653
FAX: (301) 402-0779

Direct inquiries regarding fiscal matters to:

--more-- Press [space] to continue, [q] to quit H CAREER DEVELOPMENT IN
MYCOBACTERIUM TUBERC...77. 92.08.14 PA INTEGRATED ADVANCED INFORMATION MANAGEMENT
SYSTEMS ...78. 92.07.31 RFP-RFA BIOTECHNOLOGY TRANSFER TO EPIDEMIOLOGIC
STUDIE...79. 92.07.31 PA NEURO-AIDS: HIV-I INFECTION AND THE NERVOUS
SYSTEM...80. 92.07.17 RFP-RFA MAPPING THE MOUSE GENOME WITH EMPHASIS ON
TECH...81. 92.07.17 PA GENE REGULATION BY MEMBERS OF THE STEROID..., Volume 2.82.
92.07.17 PA REVISED NLM RESOURCE GRANT PROGRAM NIH GUIDE, Vo...83. 92.07.03
RFP-RFA THE ROLE OF THE FAMILY IN PREVENTING AND ADAPT...84. 92.06.26 PA

Applications may be submitted by domestic and foreign, non-profit and for-profit, public and private organizations, such as universities, colleges, hospitals, laboratories, units of State and Local --more-- Press [space] to continue, [q] to quit governments, and eligible agencies of the Federal Government. However, foreign institutions are not eligible for the First Independent Research Support and Transition (FIRST) Award (R29) and the career development awards (K04, K08, K11). Applications from minority individuals and women are encouraged.

MECHANISMS OF SUPPORT

Support will be offered through research project grants (R01), FIRST Awards (R29), research fellowship training awards (F32, F33), and research career development awards (K04, K08, K11).

RESEARCH OBJECTIVES

Sports and exercise activity in youth are critical to developing and maintaining physical fitness and general well-being. These fitness patterns established in youth may provide the basis for a healthy life-style throughout adult life. The occurrence of injuries has been accepted as a natural risk associated with exercise and especially with sports participation. Of the estimated 8 million youth participating --more-- Press [space] to continue, [q] to quit in sports at the junior high and high school level, approximately 25 percent incurred some form of injury. Therefore, the physical and financial impact is significant.

One means of reducing these injuries is to understand the nature and risk factors for sports injuries and to seek preventive measures to reduce the occurrence. Injury surveillance approaches have led to important changes in rules and equipment to reduce the rate of injury. In one case, trampolines, the nature of the sport could not be modified to improve safety, therefore, the sport has been eliminated.

On April 8-9, 1991, at the Lister Hill Center of the NIH a conference was held on Sports Injuries in Youth: Surveillance Strategies. This meeting was co-sponsored by the National Advisory Board for Arthritis and Musculoskeletal and Skin Diseases, NIAMS, and the Centers for Disease Control. The purpose of the Conference was to examine the various factors required to develop and operate a surveillance system. Successful systems and problem areas were described. The resulting information will provide guidance for researchers entering areas of investigation involving development and utilization of reliable data --more-- Press [space] to continue, [q] to quit bases in the field of scholastic sports injury. Published proceedings from the conference are available from the contact person listed below under INQUIRIES.

The epidemiologic definition of surveillance is the dynamic, close, and continued watchfulness over the distribution and trends of disease occurrence through systematic collection, tabulation, and analysis of relevant mortality and morbidity data. Essential steps in this process include data collection, entry, processing, analysis, interpretation, and presentation. A weakness in any of these procedures may result in incomplete, inaccurate, improper, or poorly disseminated findings. One of the critical elements in analyzing sports surveillance data is the determination of the rate (incidence/number of persons at risk) of injury. For example, all players on a basketball team may not be at equal risk, since some may not even enter the game. Issues such as these are well defined in the conference proceedings.

The suggested areas for future research that were developed during the conference were defined in the proceedings as:

--more-- Press [space] to continue, [q] to quit o Developing surveillance systems for consistent national data collection;
o Developing a national sports injury data base;
o Injury characterization and intervention schemes;
o Coordination of data from diverse sources;
o Developing methods for "small area sampling" of special injury situations;
o Evaluating re-injury rates and risks;
o Expanding surveillance to include intramural and extra-scholastic sports;
o Expanding injury surveillance to include primary grades;
o Comparing injury rates and conditions to college and professional sports;
o Considering a wide range of external factors that may add to risks;
and
o Developing and evaluating instructional prevention programs.

These areas of research are neither prioritized nor meant to be restrictive. Investigators are encouraged to submit applications in any meritorious area of research responsive to the general research objectives of this Program Announcement. In addition to projects that specifically address surveillance methodology to uncover risks of and the nature of injuries, the NIAMS will consider to be responsive to this announcement applications that include biomechanical, biochemical, or other approaches to elucidating the mechanism of injury. Such related studies should either (1) be a component of applications for surveillance-based research or (2) be based on the findings of other surveillance data indicating that a particular mechanism may be the cause of injury.

The project should be founded on a strong hypothesis as evidenced by preliminary data of the investigator or others. All data collection

and statistical procedures should be fully defined and justified.

STUDY POPULATIONS

SPECIAL INSTRUCTIONS TO APPLICANTS REGARDING IMPLEMENTATION OF NIH POLICIES CONCERNING INCLUSION OF WOMEN AND MINORITIES IN CLINICAL RESEARCH STUDY POPULATIONS

--more-- Press [space] to continue, [q] to quit NIH and ADAMHA policy is that applicants for NIH/ADAMHA clinical research grants and cooperative agreements are required to include minorities and women in study populations so that research findings can be of benefit to all persons at risk of the disease, disorder or condition under study. Special emphasis must be placed on the need for inclusion of minorities and women in studies of diseases, disorders and conditions which disproportionately affect them. This policy is intended to apply to males and females of all ages. If women or minorities are excluded or inadequately represented in clinical research, particularly in proposed population-based studies, a clear compelling rationale must be provided.

The composition of the proposed study population must be described in terms of gender and racial/ethnic group. In addition, gender and racial/ethnic issues should be addressed in developing a research design and sample size appropriate for the scientific objectives of the study. This information must be included in Form PHS 398 in Sections 1-4 of the Research Plan and then summarized in Section 5, Human Subjects. Applicants are urged to assess carefully the feasibility of including the broadest possible representation of minority groups.

--more-- Press [space] to continue, [q] to quit However, NIH recognizes that it may not be feasible or appropriate in all research projects to include representation of the full array of United States racial/ethnic minority populations (i.e., Native Americans (including American Indians or Alaskan Natives), Asian/Pacific Islanders, Blacks, and Hispanics). The rationale for studies on single minority population groups must be provided.

For the purpose of this policy, clinical research is defined as human biomedical and behavioral studies of etiology, epidemiology, prevention (and preventive strategies), diagnosis, or treatment of diseases, disorders or conditions, including, but not limited to, clinical trials.

The usual NIH policies concerning research on human subjects also apply. Basic research or clinical studies in which human tissues cannot be identified or linked to individuals are excluded. However, every effort should be made to include human tissues from women and racial/ethnic minorities when it is important to apply the results of the study broadly, and this should be addressed by applicants.

--more-- Press [space] to continue, [q] to quit For foreign awards, the policy on inclusion of women applies fully; since the definition of minority differs in other countries, the applicant must discuss the relevance of research involving foreign population groups to the United States' populations, including minorities. If the required information is not contained within the application, the review will be deferred until the information is provided.

Peer reviewers will address specifically whether the research plan in the application conforms to these policies. If the representation of women or minorities in a study design is inadequate to answer the scientific question(s) addressed and the justification for the selected study population is inadequate, it will be considered a scientific weakness or deficiency in the study design and will be reflected in the priority score assigned to the application.

All applications for clinical research submitted to NIH are required to address these policies. NIH funding components will not award grants or cooperative agreements that do not comply with these policies.

--more-- Press [space] to continue, [q] to quit APPLICATION PROCEDURES

Applications are to be submitted on grant application form PHS 398 (rev. 9/91), except for individual fellowship applications which must be submitted on form PHS 416-1 (rev. 10/91). Applications will be accepted at the standard application deadlines indicated in the application kits.

Application kits are available at most institutional business offices and may also be obtained from the Office of Grants Inquiries, Division of Research Grants, National Institutes of Health, Westwood Building, Room 449, Bethesda, MD 20892, telephone 301/496-7441. The title and number of the announcement must be typed in Section 2a on the face page of form PHS 398.

The completed original application and five legible copies of form PHS 398 or two copies of form PHS 416-1 must be sent or delivered to: 2.07.17 RFP-RFA MAPPING THE MOUSE GENOME WITH EMPHASIS ON TECH...81. 92.07.17 PA GENE REGULATION BY MEMBERS OF THE STEROID..., Volume 2.82. 92.07.17 PA REVISED NLM RESOURCE GRANT PROGRAM NIH GUIDE, Vo...83. 92.07.03 RFP-RFA THE ROLE OF THE FAMILY IN PREVENTING AND ADAPT...84. 92.06.26 PA CLINICAL AND EPIDEMIOLOGIC RESEARCH ON SYSTEMIC LUP...85. 92.06.26 PA MEDICAL DEMOGRAPHY OF DEMENTIAS OF AGING NIH GUI...86. 92.06.12 RFP-RFA AFTER-SCHOOL CARE AND ITS EFFECTS ON THE DEVEL...87. 92.06.12 RFP-RFA HUMAN FETAL TISSUE BANKS NIH GUIDE, Volume ...88. 92.06.12 PA MAGNETIC RESONANCE SPECTROSCOPY AND CANCER TREATMEN...89. 92.06.05 PA RESEARCH TO BETTER UNDERSTAND AND PREVENT MEASLES ...90. 92.06.05 PA MINORITY SCHOOL FACULTY DEVELOPMENT AWARD NIH GU...

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INTEGRATED ADVANCED INFORMATION MANAGEMENT SYSTEMS

NIH GUIDE, Volume 21, Number 29, August 14, 1992

PA NUMBER: PA-92-100

P.T. 34

Keywords:

Information Science/Systems

National Library of Medicine

PURPOSE

The National Library of Medicine (NLM) wishes to provide planning and implementation grants to health science institutions that seek assistance in integrating their existing scattered databases and information systems into a comprehensive networked institutional --more-- Press [space] to continue, [q] to quit information management system capable of serving clinical, research, educational, and administrative needs.

The Integrated Advanced Information Management Systems (IAIMS) program described in this Program Announcement (PA) is a substantially revised version of the NLMs existing IAIMS program, first announced in 1982.

HEALTHY PEOPLE 2000

The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2000," a PHS-led national activity for setting priority areas. This PA, Integrated Advanced Information Management Systems, is related to the priority area of surveillance and data systems. Potential applicants may obtain a copy of "Healthy People 2000" (Full Report: Stock No. 017-001-00474-0 or Summary Report: Stock No. 017-001-00473-1) through the Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325 (telephone 202-783-3238).

ELIGIBILITY REQUIREMENTS

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Applicants may be hospitals and medical centers, academic health science centers, and other appropriate health science organizations. Institutions that have received funding for Phase III "old" IAIMS projects may apply for other grant programs of the NLM, but are not eligible for "new" IAIMS support. All others, including those that

have applied for IAIMS funding in the past, may apply to the revised program.

MECHANISM OF SUPPORT

The mechanism of support for this PA is the medical library resource grant (G08). This grant mechanism only funds direct costs.

PROGRAM OBJECTIVES

Background

In 1983 the NLM initiated an award program to provide "assistance to medical centers and health science institutions for planning and --more-- Press [space] to continue, [q] to quit development projects leading to the implementation of Integrated Academic Information Management Systems (IAIMS)." The program announcement went on to say, "IAIMS are institution-wide computer networks that link and relate library systems with individual and institutional databases and information files, within and external to the institution, for patient care, research, education, and administration. The goal is to create an organizational mechanism within health institutions to more effectively manage the knowledge of medicine, and to provide for a system of comprehensive information access."

During the next decade over seventy institutions applied for IAIMS grants in one or another of the 3 defined phases, and through FY 1991 26 awards had been made to 16 institutions. The importance of information management today is as great as ever, but the program elements as originally defined by NLM deserve re-evaluation. Lessons have been learned from a decade of experience; furthermore, the climate has changed significantly as a number of institutions made extensive investments in information systems in recent years; most importantly, the advent of the High Performance Computing and Communications --more-- Press [space] to continue, [q] to quit Initiative (HPCC) has dramatically enriched the possibilities of information transfer, while increasing the complexity of information management.

The NLM is the lead biomedical organization in the federal Government's HPCC initiative. The HPCC program recognizes "that unprecedented computational power and its creative use are needed to investigate and understand a wide range of scientific and engineering 'grand challenge' problems." (1) Some of the problems identified are of obvious interest to biomedicine: National Research and Education Network (NREN), biotechnology, transmission of digital images, intelligent gateways to retrieve information from several life sciences databases, and innovations in educational techniques, among others.

Accordingly, NLM is revising its IAIMS program with:

- o A name change: replacing "academic" with "advanced" recognizes the wide applicability of the IAIMS concept and the need to incorporate new technology
- o Fusion of the old phases II and III (model and implementation) into --more-- Press [space] to continue, [q] to quit one operational phase
- o Changes in the level of support
- o Some modification of the scope and conditions of the grant
- o Incorporation of HPCC into the NLM vision of an integrated information management system.

The Integrated Advanced Information Management Systems (IAIMS) Program

The revised IAIMS program has two phases: A planning phase, and an operational phase.

1. IAIMS Planning Phase

"New" IAIMS planning phase resembles Phase I of the "old" IAIMS. Various models can be used in information systems planning, but all applications should include some form of self-study and allow for certain key elements:

- o A description of the institution's information management resources, current and five-year projection;
- more-- Press [space] to continue, [q] to quit o Development of an institutional information policy that addresses both short-term and long-term goals;
- o Identification of leadership for planning;
- o Broad involvement of clinical and basic science faculty, administration, and students;
- o Specification of desired strategic outcomes;
- o An outline of the planning process, including goals and timetables; and
- o A comprehensive view that considers information needs of patient care, research, education, and administration.

The outcome of planning activities is the development of an institutional Information Management Plan, which should include information resources management policies, an analysis of functions and responsibilities of major information database managers, and a description of how IAIMS will be developed, organized, and managed.

A total separation between planning and operations is not mandated; institutions vary widely in the information system already in place at the time of application. An institution may, if it wishes, use or --more-- Press [space] to continue, [q] to quit introduce some operational elements during this planning period (for example, an E-mail system.)

The IAIMS planning grant may be for up to \$150,000 per year for one to two years. The grant supports direct costs only; funds are not provided for indirect or overhead costs.

2. IAIMS Operational Phase

Health science institutions that complete the IAIMS planning phase successfully (or can demonstrate a comparably sophisticated information management plan based on their own planning efforts) may apply to NLM for an IAIMS operational phase grant to assist them in implementing the plan. Plans will vary for different institutions, but certain key elements are of interest to all:

A. Essential

- o A plan for developing the institution's information management resources, and the requisite networks;
--more-- Press [space] to continue, [q] to quit
- o A functional Information Management Policy;
- o Designation of leadership with appropriate background and status;
- o A plan for supporting IAIMS after termination of the grant;
- o Timetables for reaching key features of the operational plan;
- o Reasonable timetables for major plan features such as development of the network, organization of the management structure, appointment of the leadership, and post-grant financing plans. The ability of funded institutions to reach such milestones in a timely manner will be evaluated by the NLM when deciding annually on continuance of funding;
- o The ability to provide efficiently bibliographic and related literature pertinent to health care delivery and research. Significant participation by the health sciences library is essential; and
- o Substantial incorporation of one or more elements of HPCC/NREN into the institution's information system. Connection to Internet, for example, is one such element; other examples include collaboration through high speed networks, distance learning, addressing of computationally intensive problems in molecular biology in a distributed environment, visualization techniques, and network-based
--more-- Press [space] to continue, [q] to quit

B. Highly Recommended

- o A clear relationship to clinical aspects of the health sciences, such as linkage with a computerized patient record, a hospital information system, clinical alert information/distribution systems, clinically relevant expert systems, and/or systems for monitoring quality of care and cost-control; and
- o Incorporation of current NLM objectives such as, connection to

national networks, direct access to Medline and/or extensive use of Grateful Med, outreach components which improve information access for health care workers in underserved rural or inner city locations, and in other health care sites affiliated with the applicant.

C. Optional

o An apprenticeship in IAIMS may be incorporated into the operational plan at the discretion of the applicant, through a position entitled --more-- Press [space] to continue, [q] to quit IAIMS Assistant. An educational program should be described, outlining the credentials of the candidates, the goals and duration of the apprenticeship, the structure of the learning experience, and other relevant material. Personnel, travel and supply costs may be requested up to a total of \$50,000 for each year of the operational phase. Costs for apprentices should be budgeted in accordance with standard institutional policy.

Other Information About the Operational Grant

The operational phase grant application may include an initial period of model development at the discretion of the institution, but a distinct interim period of model-building is not required.

Operational phase grants may be for up to \$500,000 per year for five years, or for up to \$550,000 per year for five years if support for the apprenticeship program is included. Only direct costs are supported.

NLM support for IAIMS at an institution will terminate at the end of the five-year operational phase, and is not renewable.

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The word "institution" as used in this program description implies that IAIMS will involve all major organizational components of the institution to the extent feasible. The NLM realizes that large differences among medical centers are inevitable, and that at some sites, certain suborganizations may not be suitable for incorporation into the initial IAIMS plan. However, a plan that is restricted to a relatively small fraction of the institution has misunderstood the point of the program, and will not be favorably reviewed.

APPLICATION PROCEDURES

Applicants are to use the PHS 398 (rev.9/91) application form, that includes forms, instructions and additional information, available at most academic medical centers, the Extramural Programs office, NLM, at the address listed under INQUIRIES, and from the Office of Grants Inquiries, Division of Research Grants, National Institutes of Health, Westwood Building, Room 449, Bethesda, MD 20892, telephone 301/496-7441. Applications must be received by the standard NIH deadlines, October 1, February 1, and June 1. Late submissions will be held over

--more-- Press [space] to continue, [q] to quit for the subsequent review cycle.
The title and number of this announcement must be typed in item 2a on the face page of the application.

The completed original application and five legible copies must be sent or delivered to:

Division of Research Grants
National Institutes of Health
Westwood Building, Room 2450
Bethesda, MD 20892**

REVIEW PROCEDURES

Applications will be assigned on the basis of established PHS referral guidelines. Applications will be reviewed for scientific and technical merit by the NLM Biomedical Library Review Committee, in accordance with the standard NIH peer review procedures. Following scientific-technical review, the application will receive a second-level review by the NLM Board of Regents.
--more-- Press [space] to continue, [q] to quit
Critical Review Elements

For Planning Phase:

- o Responsiveness to the program description and guidelines;
- o Institutional environment;
- o Extent of involvement by key leadership; and
- o Short and long-term goals.

For Operational Phase:

- o Responsiveness to the program description and guidelines;
- o Institutional commitment to the IAIMS concept, including evidence of significant cost-sharing;
- o Plans for support of IAIMS after the granting period; and
- o Sophistication and ^[[7mfeasibility^[m of the operational plan.

AWARD CRITERIA

--more-- Press [space] to continue, [q] to quit Applications will compete for available funding with all other applications assigned to the NLM. The following will be considered in making funding decisions:

- o Quality of the proposed project as determined by peer review;
- o Availability of funds; and
- o Program balance considerations.

INQUIRIES

Written and telephone inquiries are encouraged. The opportunity to clarify any issues or questions from potential applicants is welcome.

Direct inquiries regarding programmatic issues to:

Mr. Richard T. West
Extramural Programs
National Library of Medicine
Bethesda, MD 20894
Telephone: (301) 496-3113
--more-- Press [space] to continue, [q] to quit FAX: (301) 402-0421

Direct inquiries regarding fiscal matters to:

Ms. Ellen G. Meltzer
Extramural Programs
National Library of Medicine
Bethesda, MD 20894
Telephone: (301) 496-4253
FAX: (301) 402-0421

AUTHORITY AND REGULATIONS

This program is described in the Catalog of Federal Domestic Assistance No. 93.879. Awards are made under authorization of the PHS Act, Title III, Part A, Section 301, Title IV, Part D, Subpart 2, Sections 472-476, as amended, Public Law 100-607. This program is not subject to the intergovernmental review requirements of Executive Order 12372 or Health Systems Agency review.

--more-- Press [space] to continue, [q] to quit THE REQUEST FOR APPLICATIONS (RFA) ANNOUNCED IN THIS NOTICE CONTAINS

--more-- Press [space] to continue, [q] to quit ESSENTIAL INFORMATION FOR THE PREPARATION OF AN APPLICATION. POTENTIAL APPLICANTS MAY OBTAIN THE RFA FROM THE CONTACT NAMED IN INQUIRIES, BELOW.

PURPOSE

The National Institute on Deafness and Other Communication Disorders (NIDCD) invites applications for assistance awards to support cooperative multi-center (consortium) studies of the sensitivity, specificity, and predictive efficiency of methods to identify neonatal (birth to three months) hearing impairment. The major purpose of this request is to increase, through consortium arrangements, the extent and depth of research leading to the development of timely and efficient methods of identification of neonatal hearing impairment.

HEALTHY PEOPLE 2000

The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2000," a PHS-led national activity for setting priority areas. This RFA, --more-- Press [space] to continue, [q] to quit Development of a Model System for Identifying Neonatal Hearing Impairment, is related to the priority area of maternal and infant health. Potential applicants may obtain a copy of "Healthy People 2000" (Full Report: Stock No. 017-001-11474-0) or "Healthy People 2000" (Summary Report: Stock No. 017-001-11473-1) through the Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325 (telephone 202-783-3238).

ELIGIBILITY REQUIREMENTS

Any of the following organizations are eligible to apply: foreign and domestic non-profit and for-profit organizations and institutions, state and local governments and their agencies, and authorized Federal agencies.

MECHANISM OF SUPPORT

The support mechanism for this consortium project will be a cooperative clinical research grant (R10). This RFA is a one-time solicitation. Funding in response to this RFA is dependent upon the receipt of --more-- Press [space] to continue, [q] to quit applications of high scientific merit. The earliest start date for the initial awards will be April 1, 1993.

FUNDS AVAILABLE

Awards will be made for project periods of five years. Up to \$5 million total (direct plus indirect) costs is available for the entire project period of five years, or about \$1 million per year total for all awards. The NIDCD anticipates making one or two awards, but the specific amount and number of awards will depend on the merit and scope of the applications received. Budget increments after the first year will be limited to approved programmatic changes or to necessary cost-of-living increases. Although this project is provided for in the financial plans of the NIDCD, the award of grants pursuant to the RFA is contingent on the availability of funds appropriated for fiscal year 1993.

RESEARCH OBJECTIVES

The goal of this RFA is to support the conduct of coordinated --more-- Press [space] to continue, [q] to quit multicenter studies (consortium arrangements), leading to the development of a system for identification of neonatal hearing

impairment. Areas of research appropriate to the RFA may include, but are not limited to: screening normal and at-risk neonates with both auditory brainstem response (ABR) and otoacoustic emission (OAE) recordings; determining optimum stimulus and recording parameters for OAE; assessing the influence of co-existing medical factors on characteristics of ABR and OAE; assessing development related changes in OAEs that may occur particularly during the first year; establishing monaural threshold sensitivity for pure tones and speech; evaluating sensitivity, specificity, and predictive efficiency of ABR and OAE test methods, singly and in combination; and evaluation of time and cost-efficiency of the procedures. The goals of this RFA can be met by including the above areas of research in an application encompassing three project phases: screening, follow-up, and data analysis. A pilot or start-up phase of up to four months may also be included. Emphasis should be placed on the existing and potential strengths of the applicant organization related to the fulfillment and completion of the objectives of this RFA. Appropriate areas should include, but are not limited to: arrangements for biostatistical and/or epidemiologic --more-- Press [space] to continue, [q] to quit support, collaborations for ensuring availability of patients, arrangements for patient accrual, arrangements for coordination among cooperating institutions, identification of essential personnel for recruitment, and development of plans for acquiring or providing any special research skills needed.

STUDY POPULATIONS

SPECIAL INSTRUCTIONS FOR INCLUSION OF WOMEN AND MINORITIES IN CLINICAL RESEARCH STUDIES

For projects involving clinical research, NIH requires applicants to give special attention to the inclusion of women and minorities in study populations. If women or minorities are not included in the study populations for clinical studies, a specific justification for this exclusion must be provided. Applications without such documentation will not be accepted for review.

LETTER OF INTENT

--more-- Press [space] to continue, [q] to quit Prospective applicants are asked to submit, by June 31, 1992, a letter of intent that includes a descriptive title of the proposed project, the name and address of the Principal Investigator, the names of other key personnel and collaborating institutions, and the number and title of the RFA in response to which the application is being submitted. Although a letter of intent is not required, is not binding, and does not enter into the review of subsequent applications, submission of such a document allows NIDCD review staff to estimate the potential review workload and to avoid possible conflict of interest in the review.

The letter of intent is to be sent to:

Amy Donahue, Ph.D.
Chief, Hearing Program
Division of Communication Sciences and Disorders
National Institute on Deafness and Other Communication Disorders
Executive Plaza South, Suite 400B
6120 Executive Boulevard
Rockville, MD 20892
--more-- Press [space] to continue, [q] to quit Telephone: (301) 402-3458
FAX: (301) 402-6251

APPLICATION PROCEDURES

Applications are to be submitted on form PHS 398 (rev. 9/91) using the instructions included in the application kit. These kits are available from most institutional offices of sponsored research, the NIDCD Program Administrator cited below, and the Division of Research Grants, National Institutes of Health, Westwood Building, Room 449, Bethesda, MD 20892, telephone 301/496-7441. On page 1 of form PHS 398, check "yes" in item 2a and type: RFA DC-92-01: Development of a Model System for the Identification of Neonatal Hearing Impairment.

Complete applications are due no later than August 21, 1992, and must address all requirements in the RFA.

Applicants from institutions that have a General Clinical Research Center (GCRC) funded by the NIH National Center for Research Resources may wish to identify the GCRC as a resource for conducting the proposed --more-- Press [space] to continue, [q] to quit research. In such a case, a letter of agreement from either the GCRC program director or Principal Investigator must be included with the application.

REVIEW CONSIDERATIONS

Applications will be evaluated by NIDCD program staff to determine responsiveness to the RFA. Responsive applications will then be evaluated for scientific and technical merit by a review committee convened by the Scientific Review Branch of the NIDCD solely for this purpose. A second level review will be conducted by the National Deafness and Other Communication Disorders Advisory Council. Applications that are judged non-responsive will be administratively withdrawn, and the proposed Principal Investigator and institutional business official will be notified. Should an application be judged non-responsive to this RFA, any of its constituent projects may be submitted as an investigator-initiated individual research grant (R01) at the next receipt date or later. The new application would not be considered a response to an RFA.

--more-- Press [space] to continue, [q] to quit Factors considered to be important for review include demonstrated expertise in pediatric audiology, identification audiometry, neonatology, biostatistics and physiologic methods of hearing assessment; documentation of availability of an appropriate patient population; documented plans for interaction among collaborating institutions and clinicians; administrative support by the hospitals, clinics, or medical centers for all phases of the studies; and adequate facilities and ancillary personnel.

Reviewers will review the grant applications by considering the following criteria:

- o Appropriateness, originality, feasibility, and relevance of the proposed project to the overall goals and objectives of the RFA.

- o Qualifications, experience and proposed responsibilities of the Principal Investigators and key personnel.

- o Scientific merit and organizational plans for implementing the proposed program.

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- o Demonstration of availability of normal and at-risk patient populations.

- o Proposed collaborations among audiologists, otolaryngologists, neonatologists, nursing staff, and other key personnel within the applicant and collaborating institutions; adequacy of documented interest, capabilities, and commitment of all potential participating clinics.

- o Facilities and resources, and the availability of such for this project.

- o Adequacy of proposed overall administrative procedures and inter- and intra-institutional collaborative arrangements.

- o Reasonableness and appropriate justification of the proposed budget.

- o Plans to protect the rights and welfare of human subjects, including appropriate informed consent procedures.

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AWARD CRITERIA

The anticipated date of award is April 1, 1993.

In addition to technical merit, award decisions will be based on the responsiveness to RFA, the availability of resources, and the adequacy of the study populations.

Written and telephone inquiries concerning this RFA are encouraged. The opportunity to clarify any issues or questions from potential applicants is welcome. Direct inquiries regarding programmatic issues to:

assessment of feasibility

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ENCYCLOPEDIA*p+50Y*p0X *p+51Y*p0XGENE*p+50Y*p0X *p+50Y*p0XThe gene is the unit of HEREDITY. Along with many other such*p+50Y*p0Xunits, it is transmitted from parents to offspring. Each gene, *p+50Y*p0Xacting either alone or with genes, determines one or more*p+50Y*p0Xcharacteristics of the resulting organism. The totality of*p+50Y*p0Xgenes that make up the heredity constitution of an organism is*p+50Y*p0Xcalled a GENOME.*p+50Y*p0X *p+50Y*p0XGenes occur in strands of genetic material called chromosomes*p+51Y*p0X(see GENETICS). In most cells each gene occupies a particular*p+50Y*p0Xposition within a specific chromosome.

Chromosomes can break,*p+50Y*p0Xhowever, and some of their genes may be transferred either to*p+50Y*p0Xplaces on the same chromosome or to other chromosomes. When*p+50Y*p0Xthis happens, new combinations (recombinants) of the gene are*p+50Y*p0Xformed. Genes can also change in chemical composition.

In*p+50Y*p0Xtheir altered recombinant or chemically varied form, they*p+50Y*p0Xproduce different elements from the unaltered genes (see*p+50Y*p0XMUTATION). Depending on the characteristics transmitted by the *p+50Y*p0Xgene, the environment may also play an important role

in*p+51Y*p0Xdetermining the extent to which the gene's potential effect is*p+50Y*p0Xrealized (see GENE BANK).*p+50Y*p0X *p+50Y*p0XTHE NATURE OF THE GENE*p+50Y*p0X *p+50Y*p0XThe subdivision of genetics concerned with the structure and*p+50Y*p0Xfunctioning of genes at the molecular level is called molecular *p+50Y*p0Xgenetics. Since the term gene was first proposed by the Danish *p+50Y*p0Xgeneticist Wilhelm Johannsen in 1909, concepts of the nature of *p+50Y*p0Xthe gene have undergone modification. Current understanding of *p+51Y*p0Xgene structure and function at the molecular level had its*p+50Y*p0Xorigin in 1944, with the work of Canadian bacteriologist Oswald *p+50Y*p0XT. AVERY and American scientist Colin M. MACLEOD and Maclyn*p+50Y*p0XMcCARTY. They showed that the genes of bacteria are composed*p+50Y*p0Xof the chemical compound called deoxyribonucleic acid, or DNA.*p+50Y*p0XThis was later found to be true of the genes of most other*p+50Y*p0Xorganisms.*p+50Y*p0XA further advance was made in 1953, when American biochemist*p+50Y*p0XJames D. WATSON and English scientist Francis CRICK jointly*p+50Y*p0Xpresented their model of the structure of the DNA molecule.*p+51Y*p0XThe molecule was shown to consist of two chains of chemical*p+50Y*p0Xcompounds called polynucleotides, the chains between twisted*p+50Y*p0Xinto the form of a coil, or double helix. Subsequently, in*p+50Y*p0X1961, U. S. biochemist M. W. NIRENBERG and others figured*p+50Y*p0Xout the relationship between the composition of DNA and the*p+50Y*p0Xcomposition of the proteins produced by genes.

This*p+50Y*p0Xrelationship is known as the GENETIC CODE. It later became*p+50Y*p0X *p+50Y*p0X *p+50Y*p0XCopyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

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*p+51Y*p0XGENE*p+50Y*p0X *p+50Y*p0Xevident that another nucleic acid, called ribonucleic acid, or*p+50Y*p0XRNA, also functions to carry out protein synthesis.*p+50Y*p0X *p+50Y*p0XAt first it was thought that all genes functioned in an*p+50Y*p0Xidentical manner to produce the various characteristics of

an organism. Three different classes of genes, however, are now recognized. One class consists of the structural genes, whose genetic codes determine the sequences of AMINO ACIDS that go to make up proteins or the smaller molecules known as polypeptides (see PEPTIDE), including many hormones. Another class of genes has genetic codes that specify molecules that function in the physical and chemical processes involved in PROTEIN SYNTHESIS. The third gene class consists of regulatory genes, which are noncoding. They act solely as "recognition" sites for enzymes and other proteins involved in controlling protein synthesis (see OPERON). Early studies seemed to indicate that a gene, wherever it happened to be located within a chromosome, consisted of a single continuous unit. Later it was found some genes have a region called the leader that precedes the coding segment, and a region called the trailer that follows it. In addition, the coding segment itself may actually be broken up into sections, with intervening coding portions called exons. A far-reaching advance in gene study was made in 1973, when American geneticists Stanley Cohen and Herbert Boyer demonstrated that certain enzymes, called restriction endonucleases, could be used to make cuts in a DNA molecule at certain specific sites. This produced a series of segments with identical free ends, which could join with other free ends having the appropriate complementary configuration. The result was the reestablishment of a fully functional DNA double helix. Using this procedure, called gene splicing (see GENETIC ENGINEERING), it became possible to take a gene from a human cell and transfer it to a bacterium, mouse, rat, or pig, where the human gene would function as it would in a human being. It even became possible to transfer animal genes to plants. One projected use of this procedure would be to transfer appropriate normal human genes to cells of individuals suffering from hemophilia, cystic fibrosis, or other GENETIC DISEASES. Should such transfers provide successful, they could provide a means to cure such genetic diseases through direct gene therapy.

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 *GENE * * The actual functioning of genes is complex. To understand it, the nature and structure of the nucleus acids DNA and RNA must be examined in greater detail. *
 *DNA * * DNA occurs as the genetic material in most viruses and in all cellular organisms. Some viruses, however, have no DNA. *
 *Instead, their genetic material is in the form of RNA. *
 *Depending on the particular DNA-containing organisms, most DNA is found either in a single chromosome, as in bacteria, blue-green algae, and DNA viruses, or in several chromosomes, as in all other living

things. In addition to its presence in chromosomes, DNA is also found in many CELL organelles, such as plasmids in bacteria, chloroplasts in plants, and mitochondria in both plants and animals. Structure All DNA molecules consist of a linked series of units that are called nucleotides. Each DNA nucleotide is composed of three subunits: a 5-carbon sugar called deoxyribose, a phosphate group that is joined to one end of the sugar molecule, and one of several different nitrogen-containing bases linked to the opposite end of the sugar molecule. The four bases that predominate in DNA are called adenine and guanine (double-ringed PURINE compounds), and thymine and cytosine (single-ringed PYRIMIDINE compounds). Four different types of DNA nucleotides can be formed, depending on the base involved. The phosphate group of each nucleotide bonds to one of the carbon atoms of the sugar molecule in the adjacent nucleotide. This forms a so-called polynucleotide chain. The DNA of most organisms consists of two polynucleotide chains that are coiled to form a double helix. The backbone, or outside margin, of each chain consists of the sugar-phosphate sequence. The bases project inward from this backbone, into the helix. The bases of one chain are attracted to bases on the other chain by means of hydrogen bonds. This holds the double helix together. Exceptions to this type of structural organization are found in some viruses with genetic material consisting of a single DNA chain. In a DNA double helix the pairing between bases of the two chains is highly specific. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

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 GENE chains is highly specific. That is, adenine is always linked to thymine by two hydrogen bonds, and guanine is always linked to cytosine by three hydrogen bonds. This arrangement--a purine linked to a pyrimidine--results in a molecule of uniform diameter. Because of this specific way in which DNA nucleotides are paired through certain pairs of bases, the base sequence of the two strands in the helix is said to be complementary. This means that the base sequence of either strand may be converted to that of its partner by replacing adenine by thymine or thymine by adenine, and replacing guanine by cytosine or cytosine by guanine. Functions The genetic material DNA has two specific functions. It provides for protein synthesis and hence for the growth and development of an organism. It also furnishes all descendants of the organism with protein-synthesizing information by replicating itself and passing a copy to each offspring. This information, known as the genetic code, lies in the sequence of bases of DNA, which specifies the sequence of amino acids in a protein. DNA does not act directly in the process of protein synthesis. Instead it acts through the formation of a particular type of RNA called the messenger RNA (mRNA)

during the process of transcription. DNA replication depends on the principle of complementarity mentioned above. During the process of replication, the two strands of DNA double helix separate from one another. As separation occurs, each base on each strand attracts its complementary base-containing nucleotide, to which it becomes attached by hydrogen bonds. For example, the base adenine attracts and bonds to the base thymine. As the complementary nucleotides are fitted into place, an enzyme called DNA polymerase performs its function. It binds the phosphate of one nucleotide to the sugar molecule of the adjacent nucleotide, forming a new polynucleotide chain. The new strand of DNA remains hydrogen-bonded to the old one, and together they form a new double-helix molecule. This type of replication is called semiconservative, because each newly formed double-stranded molecule consists of one previously existing DNA strand. Viruses, which contain single-stranded DNA, replicate by a slightly more complicated process. When a virus enters a cell, it

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GENE it makes a complementary copy of itself, to which it remains attached. A virus in this condition is said to be in its replicative form (RF), temporarily becoming a double-stranded DNA virus. The two chains separate during replication, but only the one recently formed strand attracts complementary nucleotides. These newly attracted nucleotides are joined together by the enzyme DNA polymerase, their base sequence being exactly the same as that of the original DNA virus. The newly formed polynucleotide chain is released from the RF of the original virus and functions alone.

Mutations Many environmental factors can alter the structure of a DNA molecule. Some factors may be physical, and others are chemical. A mutation occurs when such alterations lead to permanent change in the base sequence of a DNA molecule. Mutations in turn result in an inherited change in protein synthesis. Most mutations tend to be harmful in their effects, and a number of self-repair mechanisms exist to deal with the damage done to DNA by environmental factors. Processes of mutation and self-repair have been studied, for example, in the case of damage caused to DNA by exposure to ultraviolet (UV) light. The energy absorbed by DNA during UV exposure results in the formation of chemical bonds between adjacent bases of the same polynucleotide strand. This condition interferes with base pairing during replication and leads to mutations.

RNA Ribonucleic acid, or RNA, is needed in all organisms in order for protein synthesis to occur. It is also the genetic material of some viruses, which are referred to as RNA viruses (see VIRUS). Like DNA, all RNA molecules

have a similar chemical organization consisting of nucleotides. Each RNA nucleotide, like those in DNA, consists of three subunits. One is a 5-carbon sugar called ribose, the second is a phosphate group that is attached to one end of the sugar molecule, and the third is one of several different nitrogen-containing bases linked to the opposite end of the sugar molecule. Four bases predominate in RNA: adenine and guanine (double-ringed purine compounds), and uracil and cytosine (single-ringed pyrimidine compounds).

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 GENE Structure RNA differs from DNA in two aspects of its chemical organization. First, the sugar in RNA is of the ribose type, indicating that the second carbon molecule in the ring has a hydroxyl (OH) group attached to it. (In DNA the second carbon in the ring has only a hydrogen (H) atom--hence the prefix deoxy, meaning "lacking oxygen," in the DNA sugar deoxyribose.) Second, the base uracil is present only in RNA. (Thymine, the base comparable to uracil, is present only in DNA.) Both bases are single-ringed pyrimidines, and their nucleotides substitute for one another, depending on whether the strand is RNA or DNA. The nucleotides of RNA are joined in a polynucleotide chain by means of bonding the phosphate of each nucleotide to a carbon atom of the adjacent nucleotide's sugar subunit. In RNA viruses the RNA is in the form of either a double or a single polynucleotide chain. In double-stranded RNA versus, the geometric arrangement of the two polynucleotide chains is similar to that of double-stranded DNA, and the pairing between bases of the two RNA chains is highly specific. Adenine is always linked to cytosine by three hydrogen bonds. Again as in DNA, the specific pairing of RNA nucleotides according to the base concerned indicates that the base sequence of the two RNA strands is complementary. Thus if the base sequence of one strand is known, then the base sequence of the other strand can be specified. Functions Replication of double-stranded RNA follows the pattern described for DNA. The RNA chains separate, and each base attracts an RNA nucleotide carrying the complementary base, to which it is attached by hydrogen bonds. As the complementary nucleotides are fitted into place, an enzyme called RNA replicase binds the nucleotides together, forming a new polynucleotide chain. The new strand of RNA remains hydrogen-bonded to the old strand--another example of semiconservative replication. Single-strand RNA viruses fall into two classes. The first group includes the polio virus that attacks the nerve cells of humans and other primates. When this type of virus enters a cell, the virus makes a complementary copy of itself, to which it remains attached. In this stage the virus is again said to

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*p+51Y*p0XGENE*p+50Y*p0X *p+50Y*p0Xbe in its RF form, temporarily becoming a
double-stranded RNA*p+50Y*p0Xvirus. During replication, although the two chains
separate,*p+50Y*p0Xonly the recently formed strand attracts nucleotides
with*p+50Y*p0Xcomplementary bases. The newly attracted nucleotides
are*p+50Y*p0Xjoined together by the enzyme RNA replicase. In their
base*p+50Y*p0Xsequence they are exactly the same as the original RNA
virus.*p+50Y*p0XThe newly formed chain is released from the RF of the
original*p+50Y*p0Xvirus to function independently.*p+51Y*p0X *p+50Y*p0XThe
second group of single stranded RNA viruses contains some*p+50Y*p0Xthat causes
tumors in animals, such as mouse leukemia virus and *p+50Y*p0Xmouse mammary tumor
virus. Upon entering a cell, this type of*p+50Y*p0Xvirus makes a complementary
strand of itself. This newly*p+50Y*p0Xformed chain, however, is composed of DNA
nucleotides. The*p+50Y*p0Xsingle strand of DNA in turn makes a complementary DNA
strand*p+50Y*p0Xof itself, forming a DNA double helix. The newly formed
DNA*p+50Y*p0Xdouble helix becomes incorporated into one of the
chromosomes*p+50Y*p0Xof the host cell, where it is replicated along with the
host*p+51Y*p0XDNA. While in the host cell, the RNA-derived viral
DNA*p+50Y*p0Xproduces single-strand RNA viruses that leave the host cell and *p
+50Y*p0Xenter other cells. The enzyme involved in making a
DNA*p+50Y*p0Xcomplement of RNA is called RNA-directed DNA polymerase,
or*p+50Y*p0Xreverse transcriptase--a name based on the action of
reversing*p+50Y*p0Xthe transcription process. Such viruses are also referred
to*p+50Y*p0Xas RETROVIRUSES. One of them, called HIV (for
human*p+50Y*p0Ximmunodeficiency virus), invades and kills the
T-helper*p+50Y*p0Xlymphocytes of a person's immune system, resulting in
the*p+50Y*p0Xdisease called acquired immune deficiency syndrome, or
AIDS*p+51Y*p0X(see AIDS).*p+50Y*p0X *p+50Y*p0XTypes of RNA*p+50Y*p0X *p
+50Y*p0XRNA that is involved in protein synthesis is single-stranded.*p+50Y*p0XIt
belongs to one of three distinct types, called ribosomal RNA *p+50Y*p0X(rRNA),
transfer RNA (tRNA), and messenger RNA (mRNA). A*p+50Y*p0Xcell's ribosomal RNA is
associated with protein, forming bodies *p+50Y*p0Xcalled RIBOSOMES. Ribosomes are
sites of protein synthesis.*p+50Y*p0XRibosomal RNA varies in size and constitutes
85 to 90 percent*p+51Y*p0Xof all the RNA in a cell. Transfer RNA, also called
soluble*p+50Y*p0XRNA or adapter RNA, is a group of small molecules, each
of*p+50Y*p0Xwhich has a specific attraction for one of the amino
acids.*p+50Y*p0XThe function of each type of tRNA is to bring its
specific*p+50Y*p0Xamino acid to a ribosome for possible inclusion in
the*p+50Y*p0Xparticular protein being synthesized. The tRNA
molecules,*p+50Y*p0Xabout 80 nucleotides in a cloverleaf pattern, constitute
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*p+51Y*p0XGENE*p+50Y*p0X *p+50Y*p0X5 percent of a cell's RNA.*p+50Y*p0X *p
+50Y*p0XThe third type of cellular RNA, messenger RNA, constitutes 5 to *p

+50Y¶*p0X10 percent of a cell's total RNA. It acts as an intermediary¶*p+50Y¶*p0Xbetween the genes located in the chromosomes, and the ribosomes ¶*p+50Y¶*p0Xlocated in the cytoplasm. As its name implies, mRNA carries¶*p+50Y¶*p0Xthe genetic code contained in the sequence of bases in the¶*p+50Y¶*p0Xcell's DNA. Because the DNAs from various organisms differ¶*p+51Y¶*p0Xonly in the sequence of their bases, mRNA from different¶*p+50Y¶*p0Xorganisms must reflect this difference in base sequence. The¶*p+50Y¶*p0Xsynthesis of mRNA, called transcription, involves the formation ¶*p+50Y¶*p0Xof an RNA chain that is complementary to one of the two strands ¶*p+50Y¶*p0Xof a DNA double helix. In the transcription process, only¶*p+50Y¶*p0Xnucleotides that contain ribose are used. In this process,¶*p+50Y¶*p0Xuracil acts as the complement of adenine. The enzyme involved¶*p+50Y¶*p0Xin transcription is known as RNA polymerase.¶*p+50Y¶*p0X ¶*p+50Y¶*p0XRNA as an Information Molecule¶*p+51Y¶*p0X ¶*p+50Y¶*p0XThe earliest information molecule to have evolved must have¶*p+50Y¶*p0Xbeen both relatively simple in structure and capable of¶*p+50Y¶*p0Xenzymatic activity. RNA, which acts as the carrier of genetic¶*p+50Y¶*p0Xmessages in all organisms, is the simplest molecule known that¶*p+50Y¶*p0Xhas the capacity to store and transmit information.¶*p+50Y¶*p0X ¶*p+50Y¶*p0XInitially, evidence that RNA can also act as a catalyst of¶*p+50Y¶*p0Xreactions centered on the enzyme called ribonuclease P, which¶*p+50Y¶*p0Xconsists of protein and RNA. The enzyme has been found on¶*p+51Y¶*p0Xvirtually all organisms. It is involved in the process that¶*p+50Y¶*p0Xtransforms the precursor molecules of tRNAs into their fully¶*p+50Y¶*p0Xfunctional forms. Geneticists have since discovered that the¶*p+50Y¶*p0XRNA component of this enzyme, acting alone, can perform the¶*p+50Y¶*p0Xcatalytic activity of the enzyme, whereas the protein alone¶*p+50Y¶*p0Xcannot. More recently, investigations have concentrated on the ¶*p+50Y¶*p0Xribosomal-RNA specifying gene of the protozoan Tetrahymena¶*p+50Y¶*p0Xthermophila. This gene consists of a noncoding sequence, or¶*p+50Y¶*p0Xintron, between two coding portions, or exons. After¶*p+50Y¶*p0Xtranscription, the precursor RNA molecule has to have the¶*p+51Y¶*p0Xintron-transcribed segment removed before the ribosomal-RNA¶*p+50Y¶*p0Xmolecule can become functional. The intron specified segment¶*p+50Y¶*p0Xsnips itself out of the precursor molecule and splices the¶*p+50Y¶*p0Xloose ends together to form the functional molecule.¶*p+50Y¶*p0X ¶*p+50Y¶*p0XThese findings, that RNA is capable of catalytic activity, lend ¶*p+50Y¶*p0Xsupport to the concept that RNA was indeed the earliest¶*p+50Y¶*p0X ¶*p+50Y¶*p0XCopyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

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 ¶*p+51Y¶*p0XGENE¶*p+50Y¶*p0X ¶*p+50Y¶*p0Xinformation molecule, and that DNA must have evolved from RNA.¶*p+50Y¶*p0XSupport for this hypothesis is found in the life cycles of RNA¶*p+50Y¶*p0Xtumor viruses, which, upon entering cells, make DNA copies of¶*p+50Y¶*p0Xthemselves.¶*p+50Y¶*p0X ¶*p+50Y¶*p0XLouis Levine¶*p+50Y¶*p0XBibliography: Alberts, Bruce, et al., Molecular Biology of the ¶*p+50Y¶*p0XCell (1983); Dawkins, Richard, The Selfish Gene (1989);¶*p+51Y¶*p0XHames, B.D., and Glover, D.M., Transcription and Splicing¶*p+50Y¶*p0X(1988); Juma, Calestous, The Gene Hunters (1989); Kornberg,¶*p+50Y¶*p0XArthur, DNA Replication (1980); Suzuki, D.T., et al.,

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Evolving Methods in Genetic Epidemiology (Gene-Environment Interaction in Epidemiologic Research)ⁱ

by

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I. Introduction

Genetic epidemiology is increasingly focused on the study of common diseases with both genetic and environmental determinants. The concept of gene-environment interaction is becoming a central theme in epidemiologic studies that assess causes of human disease in populations (1). Advances in genetic technology and the work of the Human Genome Project will make it easier for the study of gene-environment interaction to become an integral part of epidemiologic research. In this paper, we review epidemiologic concepts and definitions applied to gene-environment interaction and give an overview of both traditional and emerging approaches in epidemiologic studies of human disease.

II. Concepts and Measurement of Interaction in Epidem

A. [Evolving epidemiologic concepts and definitions of interaction](#)

Over the last two decades, there has been much discussion about how to define and measure interaction in epidemiologic studies (2-12). Much of this discussion focused on deriving the expression for the relative risk for disease associated with exposure to

multiple factors when the joint effects of these factors act through the same pathogenetic pathway. The interaction of two or more risk factors can be measured as a departure from a multiplicative model of disease risk (27). Using such an approach, it is relatively easy to find parsimonious models by keeping statistical interactions to a minimum (10).

However, it is not clear what ultimately constitutes interaction or synergy on the biological level, and that any statistical approach is inherently arbitrary and model-dependent (7-8, 12).

Interaction can also be measured in terms of a departure from an additive model of disease risk (8). In this model, at an individual level, a causal interaction effect can be understood by a hypothetical contrast of the outcome of a single subject under different exposure conditions to develop a disease. For example, assuming two dichotomous risk factors (A and B) of a disease, a person might develop the disease at age 70 if exposed to A only, at age 60 if exposed to B only, and at age of 50 if exposed to both risk factors. The advance from 60 years of age to 50 years of age is due largely to the joint interacting effects of factors A and B. At the population level, if two factors can cause a disease, some cases of disease will involve exposure to both risk factors. In the absence of either factor, these cases would not occur (12). Several measurements and their confidence intervals were developed to measure the departure from an additive model: relative excess risk due to interaction, and attributable proportion due to interaction (8, 13-14). Measuring interaction as departure from additivity is also useful in assessing the public health implications in diseases prevention and in individual decision making in considering exposure to certain risk factors, such as smoking and alcohol (15).

B. Gene-environment interaction

There is accumulating evidence that allelic variations of many gene loci may play important roles in determining individual susceptibility to cancer (16-20) and other chronic diseases (21-23). In assessing the role of susceptibility alleles in disease risk, one should consider the effects of gene-environment interaction in disease etiology. Gene-environment interaction may be measured by the different effect of an exposure on disease risk among individuals with different genotypes or by the different effect of a genotype on disease risk among individuals with different exposures (24-25).

The concept of gene-environment interaction has long been recognized by geneticists (26), and occupied an essential place in ecogenetic studies which examine genetically determined differences among individuals in their susceptibility to environmental risk factors (27-29). In recent years, an epidemiologic framework for evaluating gene-environment interaction has been proposed (24, 30-32). In a simple gene-environment interaction model, in which both the susceptibility genotype at a single locus and the environment exposure are considered dichotomous, one can construct an extended 2-by-2 table incorporating genetic and environment factors in studying disease etiology (24).

Table 1 shows a simple gene-environment interaction model in the context of epidemiologic studies. For this simple model, it is assumed that unexposed individuals without the susceptibility genotype have a certain background risk for disease I. R_e refers to the relative risk for disease among people without the susceptibility genotype for disease who are exposed to the environmental risk factor relative to those with neither the susceptibility genotype nor exposure. R_g refers to the relative risk among people with the susceptibility genotype who are not exposed to the environmental risk factor relative to those with neither the susceptibility genotype nor exposure. R_{ge} is the ratio of disease risk

among exposed people with susceptibility genotype to disease risk among unexposed people without the susceptibility genotype. This ratio reflects the strength of the gene-environment interaction.

Based on this simple gene-environment interaction model, the effects of six biologically plausible patterns of interaction on the relative risk of disease has been proposed (24)(Table 2). In type 1 interaction, the increased risk of diseases was only observed when both genetic and environmental factors coparticipate in the same pathogenetic mechanism, neither the genotype alone nor the exposure alone causes excess risk (i.e., $R_g = R_e = 1$). In type 2 interaction, environmental exposure increases risk in individual without the corresponding genotype. In type 3 interaction, the genotype ($R_g > 1$) is associated with increased disease risk, whereas the exposure alone is not. In type 4 interaction, both the genotype and the environmental exposure are each associated with excess risk of disease ($R_g > 1$, $R_e > 1$). Type 5 and 6 interaction occur when there is a reversal of the genotype's effect, depending on the presence or absence of the environment. In this case, the genotype is protective in the absence of the environment ($R_g < 1$), but is deleterious in the presence of the environment ($R_{ge} > 1$). Ottman (31) also proposed a similar model of studying gene-environment interaction in etiology of disease. In any gene-environment interaction model, the effects of gene-environment interaction on the measured phenotype are further complicated by the number of genetic loci involved and multiple environmental exposure factors, the moderation of the genetic effects, the dose of the environmental exposure, and the presence of etiologic heterogeneity (24, 31). Most studies have evaluated gene-environment interaction in terms of the departure from that predicted by the multiplicative model (33-34). Some investigators have suggested that many biologically plausible modes of gene-environment interaction involve extreme departures from multiplicative effects (35). For example, neither phenylalanine hydroxylase deficiency alone nor exposure to phenylalanine in the diet cause phenylketonuria (PKU); both must be present for PKU to develop (24). The gene-environment interaction may also be evaluated in terms of the departure from those predicted by the additive model.

III. Gene-Environment Interaction in Traditional Epidemiologic Studies

A. Strategies

The main emphasis of gene-environment interaction studies is not to localize the disease susceptibility genes or to find the inheritance patterns of the diseases, but rather to better understand the etiology and pathogenesis of the diseases through quantitative assessment of diseases risks in various populations (24, 31-32, 36-37).

Two types of genetic markers are used in gene-environment interaction studies: markers based on direct analysis of the DNA, and markers based on gene products such as specific blood groups, HLA antigens, serum proteins, and enzyme systems. When genetic markers are not available, family history data are sometimes used as a rough indicator of genetic susceptibility, though there is a potential for significant misclassification in using family history data in genetic epidemiologic studies (38-39).

Although the number of genetic polymorphisms available for research will increase markedly in the near future, studies of gene-environment interactions will be most meaningful when applied to functionally significant variations in candidate genes which

have a clear biological relation to or suspected of playing some role in the pathogenesis of disease (40-41).

B. Study design

Gene-environment interaction can be analyzed through the use of the traditional epidemiologic study design: cohort, cross-sectional, and case-control studies.

When a relatively high number of polymorphic markers are located close to candidate gene loci, the case-control approach is a popular and effective means by which to study differences in genetic susceptibility and gene-environment interaction (24, 33). In a case-control design, the genetic markers and relevant environmental risk factors are each examined as independent predictors of disease and as interacting factors. The odds ratio of gene-environment interaction (R_{ge}) can be calculated as shown in Table 1. Examples of recent case-control studies include a study of interaction effects between maternal cigarette smoking and a transforming growth factor alpha (TGFA) polymorphism and the risk of oral clefts (42). The odds ratios for the exposure to smoking alone, and for the TGFA genotype alone are close to unity, whereas the combined odds ratio for smoking and the genotype is 5.5 (95% C.I. 2.1-14.6), indicating evidence of gene-environment interaction for risk of oral clefts in offspring (42).

In a cohort study design, the environmental exposures and genetic risk factors are measured for all subjects at the start of follow-up (baseline) and possibly during follow-up. Despite major strengths of cohort study design (disease occurs or is detected after subjects are selected, minimizing selection bias), few cohort studies used genetic markers to test for effects of gene-environment interaction in disease etiology. This is partly because the rapid development of molecular techniques have been seen only recently and the main stream of genetic analysis has been to locate disease susceptibility genes. With the advances in molecular techniques and the findings of more candidate genes, one would expect to see increasing number of cohort studies to examine gene-environment interaction. Also, case-control studies nested in cohort studies will be increasingly used. In cross-sectional design, the investigators study individuals from a study population through a single ascertainment of disease prevalence. Individuals with different genetic and environment risk characteristics are compared with respect to the prevalence of the condition, and gene-environment interaction can also be tested (24). An example is the cross-sectional WHO-cardiac study of gene-environment in hypertension, stroke and atherosclerosis (43). Although cross-sectional designs are less time-consuming and able to examine many exposures and disease in the same study, an important limitation of cross-sectional is the inability to separate the effects of any genotype as a cause of the disease compared with its effect on duration and/or survival associated with the disease. A number of case-control studies are including a familial component, such as a family history of the disease under study. The designs and some problems of the case-control studies incorporating family history are discussed in the epidemiologic literature (1, 34, 44) and by contributors to this special volume. The study of familial aggregation in case-control studies can be extended by incorporating environmental covariates and their interaction with family history (45).

C. Methodologic Issues in assessing gene-environment interaction

Mis-specification

In the presence of gene-environment interaction, quantifying the main effects of environmental factor alone or genetic factor alone can lead to mis-specification of the

study model, and under some situation lead to missing the effects of each factor in the the etiology of the disease (46).

Misclassification of environmental exposures

Precise measurement of an individual's exposure to environmental risk factors is often difficult because of the individual's ignorance or poor recall of previous exposures, the complex pattern of most long-term exposures, and the lack of good biological indicators of exposure levels (45). In the study of gene-environment interaction, the consequences of environmental exposure mismeasurement can lead to bias in the estimation of relative risks associated with interaction effects and possible loss of precision and power with which interaction effects are estimated (24). Nondifferential misclassification usually leads to biases of relative risk toward the null value, and differential misclassification may produce biased relative risks in either direction. In addition to the errors of environmental exposure measurement, the timing of exposure during a developmentally important window can also be important in examining gene-environment interaction. For example, the timing of the exposure to an environmental agent during the pregnancy and the development of a birth defect for a genetically susceptible fetus may be critical.

Misclassification of genotype

When measuring individuals' genotypes at the DNA level, misclassification can occur because of linkage disequilibrium (24, 47). Investigators usually rely on genetic markers in the region of the candidate genes or in a nonexpressed portion of the genes in order to conduct many DNA marker-disease association studies. Under these circumstances, the observed differences in prevalence of a marker allele between case and comparison groups could be a result of linkage disequilibrium unless the actual sites of a deleterious variation involved in the disease are targeted (24, 48-49). Under linkage disequilibrium, Nondifferential misclassification can occur, and this misclassification may bias estimates of relative risk of the genotype toward the null (i.e. $OR = 1$). Individual genotypes can also be measured by indirect methods. For example, some investigators used dapsone loading followed by urinary measurements of different metabolites to classify subjects as slow or fast acetylators in a case-control study of bladder cancer (50-51). Such indirect measures can lead to misclassification of the underlying genotypes of individuals. This type of misclassification is often independent and nondifferential. However, the argument that independent and nondifferential measurement errors produced bias only toward the null may not apply to assessments of gene-environment interaction. As with all types of interactions, independent and nondifferential misclassification may bias interaction estimates in any direction (12). Occasionally, genotype misclassification may be differential if the measurement method is affected by disease status itself or if a near-by gene is associated with the disease; such differential misclassification will further complicate the assessment of gene-environment interaction (1).

Confounding

Confounding is a major problem in studying genetic factors and evaluating gene-environment interaction. It can involve population subgroups with different genetic markers and disease frequencies. Unmeasured genetic determinants and environmental exposures can each act as confounders that could produce spurious associations. Race or ethnicity is an important source of confounding in studies of genetic factors (52). One

example is the reported association between the genetic marker Gm3;5;13;14 and non-insulin-dependent diabetes mellitus among the Pima Indians (53). In a cross-sectional study of this association, individuals with the genetic marker Gm3;5;13;14 were found to have a higher prevalence ratio of the disease than those without the marker (29% vs.8%). This marker, however, turned out to be an index of white admixture. When the subjects of the analysis were stratified by degree of admixture, the higher prevalence of diabetes associated with the marker disappeared.

Dose-response relationships

In traditional epidemiologic studies, dose-response relations refer to the changes in risk produced by changes in a single exposure, and interaction refers to changes in risk produced by two or more exposures. The interplay between dose-response relationships and interaction is complex (54). In assessments of the effect of gene-environment interaction on disease risk, the risk in disease associated with a certain genotype may vary depending on the environmental exposure, or the risk may be restricted to exposed persons only. Similarly, the effects of environmental exposures may vary depending on the genotype of the exposed person (25). For example, people who are slow acetylators of N-acetyltransferase 2 (NAT2) have an increased risk for bladder cancer, and the risk for bladder cancer associated with smoking may vary by NAT2 status (55). For slow acetylators of NAT2, current smoking and smoking in the distant past increased breast cancer risk in a dose-dependent manner. Those in the highest quartile (heavy smokers in the study) of cigarettes smoked 2 years previously were 4.4 (95% CI, 1.3-14.8) times more likely to develop breast cancer than those who never smoked (56).

Sample size considerations

In an epidemiologic study of a given sample size, the power to detect statistical interactions is less than the power to detect main effects, and the variance of the interaction estimate will also be greater than the variance of the main effects estimate under a no-interaction model (7, 57-58). Several investigators have examined the sample size and power calculation needed to detect gene-environment interaction in case-control studies (59-61). The data needed to calculate the sample size required to detect gene-environment interaction can be shown by a 2-by-4 table as is done in Table 3. This table lists six parameters: 1) The odds ratio of interaction (R_{ge}); 2) The odds ratio of having the disease among exposed individuals without the susceptible genotype relative to those with neither the susceptibility genotype nor exposure (R_e); 3) the odds ratio of having the disease among people with susceptible genotype but without environmental exposure relative to those with neither the susceptibility genotype nor exposure (R_g); 4) the prevalence of exposure in the population (e); 5) the prevalence of the genotype in the population (g); 6) the case/control ratio (59-60). The results of several studies have suggested that when the frequency of exposure is not extremely low or high, and the susceptible genotype is common, a modest sample size will be adequate to detect gene-environment interaction. For example, when the frequency of exposure and the prevalence of the genotype both range between 30% to 70%, about 200 case subjects and 400 control subjects (for case/control ratio 1:2) should be adequate to detect an R_{ge} greater than 4 with 80% statistical power (60). However, the susceptible genotypes for many common diseases are relatively rare, with prevalence ranging from 1 to 5%, and both the genotype alone (R_g) and exposure alone (R_e) have moderate effects on risk for

disease. For example, for a genotype that is relatively frequent in the population (e.g., the 185delAG mutation in the BRCA1 gene occurs in about 1% of Ashkenazi Jews) (62), and for many risk factors for common disease having odds ratios around 2 (e.g., breast cancer risk factors (63)), a relatively large number of case and control subjects are needed to detect gene-environment interaction (usually more than 1,000 cases)(60). Increasingly, alternative approaches to detecting gene-environment interaction are being developed. These approaches, briefly reviewed in the next section, include 2-tier sampling strategies (64-65), family or sibling-based designs (61), and case-only designs (66).

IV. Gene-environment Interaction in Nontraditional Epidemiologic Studies

Concerns about selecting appropriate control subjects for case-control studies have led to the development of several nontraditional approaches in the study of genetic factors in disease (1, 34). These approaches involve the use of an internal control group rather than an external one. We will review three of these nontraditional approaches in detecting gene-environment interaction: 1) the case-only study, 2) the case-parental control study, and 3) the affected relative-pair study. Except for the case-only design, these nontraditional approaches were not developed with the intention of evaluating gene-environment interaction. Table 4 summarizes the features of these studies, including their assumptions, strengths, and limitations. We also briefly review use of the twin study to evaluate gene-environment interaction.

A. Case-only studies

The case-only design has been promoted as an efficient and valid approach to screening for gene-environment interaction under the assumption of independence between exposure and genotype in the population (67-68). If one's primary interest is in assessing possible interaction between genetic and environmental factors in the etiology of a disease, one may do so without employing control subjects. The basic set up for a case-only design is a 2-by-2 table (Table 5). The odds ratio calculated from a case-only design is related to the odds ratios for the exposure alone, the genotype alone, and their joint effects in the case-control design by the following formula:

$$OR_{ca} = R_{ge}/(R_e * R_g) * OR_{co},$$

where OR_{ca} is the case-only odds ratio, and OR_{co} is the odds ratio among control subjects relating the exposure and the susceptibility genotype. Assuming independence between the genotype and the exposure in the population, the expected value of OR_{co} becomes unity, and the odds ratio obtained from a case-only study measures the departure from the multiplicative joint effect of the genotype and the exposure. Under the null hypothesis, $OR_{ca} = 1$; $OR_{ca} > 1$ if the joint effect is more than multiplicative; and $OR_{ca} < 1$ if the joint effect is less than multiplicative (e.g., additive) (34). Confidence intervals of case-only odds ratio can be obtained by using standard crude analyses or logistic models that control for the effects of other covariates.

Table 6 shows data from a case-control study of the association between cleft palate, maternal smoking and TGFA polymorphism derived from Hwang et al. (42). The case-only OR_{ca} of 5.1 (95% CI, 1.5-18.5) calculated from Hwang et al. (42) can be compared with the odds ratio of the interaction 5.5 (95% CI 2.1-14.6) derived from their case-control study. Both odds ratios suggest a significant interaction between TGFA polymorphism and maternal smoking in the risk for cleft palate among the offspring.

Study has shown that the case-only design requires fewer case subjects than case-control design to detect gene-environment interaction (66).

In applying the case-only design to test gene-environment interaction, investigators assume independence of the distribution of exposure and genotype in the population. This assumption may seem reasonable for a wide variety of genes and exposures, but there are some genes whose presence may be associated with a higher or lower likelihood of the exposure on the basis of some biologic mechanisms (34). The gene-environment interaction (OR_{ca}) derived from a case-only design assumes a departure from multiplicative effects. Studies have shown that many biologically plausible modes of gene-environment interaction involve a departure from multiplicative effects (35). If the true underlying model of joint effect is additive, the odds ratio of interaction (OR_{ca}) derived from a case-only design is questionable.

B. Case-parental control studies

The case-parental design may be an effective method of dealing with the effects of confounding by hidden population stratification (e.g. due to ethnicity; 69-71). In addition, when disease alleles are common and have modest effects, an association study may provide a more sensitive test for linkage between genetic markers and disease susceptibility genes than the classical linkage analysis (41). Several methods (72-77) combine the advantages of linkage and population association analyses and also take into account the effect of confounding. All these methods consider the alleles found in the parents of an affected offspring and compare transmitted and untransmitted alleles of parents to the affected offspring (transmission/disequilibrium test). Investigators using these methods can compare the genotype of the affected offspring with the genotype of a fictitious control subject carrying the nontransmitted alleles from each parent. The 2-by-2 tables used in such a comparison are shown in Table 7. Odds ratios can be calculated in an analysis following that of a matched-pair design (34). To test gene-environment interaction, investigators can stratify case subjects according to their environmental exposure status (presence or absence) and can assess for homogeneity in odds ratios derived with and without the environmental exposure as an indication of departure from multiplicative interaction (34).

One limitation of this method could be that the "control" group may not be representative of the underlying population at risk, especially when certain parental genotypes associated with disease status may interfere with reproduction. In other study (78), investigators proposed using a noniterative method, which compares risk among those with a specific genotype with the risk among those with a comparison genotype. To study gene-environment interaction, investigators can stratify on the environmental factor to obtain stratum-specific estimates of the disease-gene association, and the difference in the stratum-specific estimates reflect gene-environment interaction (78).

The need for the parents of the case subjects to be genotyped is another limitation of case-parental approach. The parental marker data may not be available for some case subjects, especially in studies of the genetic etiology of diseases with older age at onset. In other studies (79), investigators developed a method using marker information on all members of a nuclear family to infer the probability distribution of missing parental marker data.

C. Affected relative-pair studies

The third type of nontraditional epidemiologic method that can be used to test gene-environment interaction is the affected sib-pair or affected relative-pair method (80-84). In sib-pair analysis, investigators determine whether each sib-pair shares 0, 1, or 2 alleles identical by descent (IBD) at a locus of interest. Under random segregation, the expected distribution of sharing 0, 1, or 2 alleles is 25%-50%-25% between two siblings IBD. Departure from this distribution suggests linkage between the disease and the marker locus (84).

In contrast to the case-only and case-parental approaches, the sib-pair method is primarily used to test for genetic linkage when the genetic model underlying the disease is not known, especially for common disease involving multiple etiologies (1). The sib-pair methods can be incorporated into family-based epidemiologic studies (cohort and case-control designs): such incorporation allows investigators to control for suspected nongenetic risk factors and to test for gene-environment interaction in searching for genetic linkage (85-86). To look for gene-environment interaction using this method, investigators can stratify the affected individuals by their exposure status or incorporate the gene-environment interaction term in a multivariate analysis. For example, they can use logistic regression when testing for genetic linkage (86-87). The basic set-up for analyzing gene-environment interaction through sib-pair analysis is shown in Table 8. The difference of odds ratios for diseases between exposed and unexposed individuals are taken as an indication of gene-environment interaction.

The sib-pair method requires families with at least one affected member in addition to the proband. This requirement restricts the number of families for which this analytic method can be used. Because the affected relative-pair approach assumes Mendelian transmissions for expected distributions, any departure from independent segregation and random assortment could affect the results. Finally, selection factors, including survival, chronicity, and method of case ascertainment, may substantially affect the types of case subjects that could be available for this analysis (78, 86).

D. Twin studies in gene-environment interaction

The premise behind twin studies is that, because monozygotic twins (MZ) have 100% of their genes in common whereas dizygotic twins (DZ) have only 50% of their genes in common, an excess disease concordance among MZ twins may reflect a greater role of genetic factors. Several investigators have extended the classical twin study to test for gene-environment interaction (25, 88-89). For example, Ottman (25) developed a method to test for gene-environment interaction on disease risk conditional on twin exposure status and genotype. This method involved two measures of relative risk: 1) relative risk for disease among exposed vs. unexposed cotwins, stratified by zygosity and proband exposure status (RR_e), and 2) relative risk for disease among MZ vs DZ cotwins, stratified by exposure status of the proband and cotwin (RR_z). Ottman then examined the behavior of the two measures under different assumptions about the relative effect of exposure and genotype on disease. RR_e reflects the effect of exposure on disease risk. When gene-environment interaction is present, RR_e is expected to differ between MZ and DZ twins because of their different probabilities of having the high risk genotype. RR_z reflects the effect of genotype on disease risk. When gene-environment interaction is present, RR_z is expected to differ between exposed and unexposed twins. In another study, investigators used a case-control design to calculate the odds ratios for disease among affected vs unaffected cotwins and compared these odds ratios among the various

strata defined by exposure in the index twin. Gene-environment interaction is indicated by the difference in odds ratios by stratified environmental exposures (89). Recently, other investigators extended the twin study method by including the half-siblings in a study of genetic and environmental factors in the etiology of disease (90). Given the possible confounding by shared environmental factors (intrauterine and postnatal) and selection factors, the effects of gene-environment interaction obtained from twin studies should be interpreted with caution (1).

ⁱ Evolving Methods in Genetic Epidemiology
III. Gene-Environment Interaction in Epidemiologic Researchⁱ

by

Quanhe Yang Ph.D. and Muin J. Khoury M.D., Ph.D.

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03/10/94

characteristic; (5) hereditary factors for different traits sort independently of one another at gamete formation (law of independent assortment); and (6) gametes join randomly, irrespective of the factors

that they carry. The characteristic that appeared in the first generation plants--in this case, tall plants--seemed to dominate over the one that did not appear. Mendel called tallness a dominant trait and shortness recessive; this phenomenon was referred to as the law of dominance. A capital A is now usually used to represent the gene that determines the dominant character, and a small a for one that determines the recessive character. When a pair of hereditary factors, or genes, are of the same type (AA), the condition is said to be homozygous for that character. On the other hand, if the two members of a pair are different (Aa), the condition is called heterozygous. The second generation plants of Mendel's experiment were composed of one-quarter AA, one-half Aa, and one-quarter aa. Since tallness is dominant, AA and Aa both appear tall, accounting for the three-quarter: one-quarter ratio of tall to short. The alternate forms of a gene, known as alleles, combine to produce different genetic types, or genotypes. Mendel demonstrated that the three-quarter: one quarter ratio existed for all seven characteristics of peas that he studied; he also showed that the separate gene pairs behaved independently of each other during gamete formation. CHROMOSOMES Mendel's knowledge of genes and their behavior was entirely theoretical. Subsequent studies of CELL structure and cell division have supplied physical evidence supporting his theories. It is now generally believed that genes behave as they do because of their location on chromosomes (see GENETIC CODE), structures found in the nucleus of each CELL of an organism. Chromosomes are not all the same length, and, when stained in the appropriate way, each may show characteristic bands, thickenings, or constrictions. The cells of each species contain a fixed and characteristic number of chromosomes. Some organisms, such as fungi and single-celled algae, have only a single set, or haploid number (n), of chromosomes in their cell nuclei. The somatic cells of a Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

PRODIGY(R) interactive personal service 03/10/94 10:11
 PM ACADEMIC AMERICAN ENCYCLOPEDIA
 GENETICS most higher organisms, including humans, contain two sets, or a diploid number (2n), of chromosomes. Still other organisms, such as mosses, ferns, and horsetails, alternate between diploid and haploid during different stages of their life cycles. Meiosis In diploid cells, gene pairs are located at specific sites (loci) on each chromosome. These gene pairs can be composed either of two identical genes or two alleles. A diploid cell therefore contains two genes for each hereditary characteristic. The gametes (sex cells) of diploid organisms, however, contain only a haploid (n) number of chromosomes; the union of two gametes, one from each parent, produces a

diploid (2n) zygote, from which the offspring develops. The process of cell division by which such gametes are produced is called meiosis. It takes place in the testes and ovaries of animals, in the anthers and ovaries of higher plants, and in the sporophyte (2n) stage of organisms that alternate between haploid and diploid. In meiosis a single diploid cell divides into two diploid cells, each of which divides into two haploid cells. During this process, the two sets of chromosomes separate, thereby separating the members of the gene pairs. Each of the four resulting gametes therefore contains only one gene for each characteristic, and different gametes from the same parent may carry different alleles. Mendel's postulates may therefore be restated in physical terms as follows: (1) genes are located on chromosomes; (2) genes occur in pairs, occupying specific loci on a chromosome pair; (3) the first meiotic division separates the chromosome pairs, producing an equal division of the members of a gene pair in the product cells; (4) since there are two cell divisions and only one replication of chromosomes, the chromosome number is halved; (5) different gene pairs on separate chromosome pairs behave independently of each other; and (6) collision of egg and sperm is a chance process. Linkage and Crossing-Over In the early 1900s, Thomas Hunt MORGAN used the fruit fly *Drosophila melanogaster* to test a situation that Mendel did not encounter, in which two gene pairs are located on the same chromosome. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

PRODIGY(R) interactive personal service 03/10/94 10:11
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 GENETICS chromosome pair. In this case they do not behave independently, since genes on the same chromosome tend to stay together during meiosis. This is called linkage. The combinations can be separated by the simultaneous breaking of homologous chromosomes during the first meiotic division, and the joining of the broken segments from each chromosome to the homologous broken segments. This process, called crossing-over, occurs regularly during meiosis and randomly between any chromosome pair in a bundle of four. Crossovers can be detected genetically if they involve two heterozygous gene pairs (the alleles producing distinct gene products). Under a microscope, they appear as cross-shaped structures called chiasmata. Mapping Crossing-over can be used to produce a chromosome map showing the relative positions of the loci of the known gene pairs. Two organisms having homozygous gene pairs are bred, and the offspring (first generation) has heterozygous gene pairs (AaBb). This heterozygote is then crossed with a tester strain of the genotype aabb, a standard tool known as a testcross. The progeny of a testcross are screened for the appearance of the genotype Aabb and aaBb, which can only arise from crossovers. The frequency of these types is a standard measure of

and is assumed to be proportional to the distance between the two loci on their chromosome. Using different combinations of gene pairs, an internally self-consistent map can be constructed in which the number of map units is defined as the percentage of progeny in a testcross derived from a crossover. The Role of Chromosomes

It is now known that genes are lengths of a threadlike chemical called deoxyribonucleic acid (DNA) and form a continuous string that constitutes the chromosomes. Several researchers have attempted to explain the significance of the long assemblages of genes in chains, or chromosomes. First, some combinations of genes have adaptive value and need to be inherited as a package. Having them linked closely on one chromosome is one way of ensuring this. Second, genes with related functions often need to be activated simultaneously; their proximity allows them to be activated by one common switch mechanism. Third, the packaging of genes into units facilitates the orderly production of daughter cells in cell division.

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GENETICS Crossing-over and independent assortment of genes result in combinations of genes in progeny that are different from the parental arrangements. This process, called recombination, is believed to be an important mechanism for generating new genotypes. Recombination most frequently occurs among genes widely separated from each other; closely linked genes, however, have a random chance of rearrangement.

POLYGENES AND GENE-ENVIRONMENT INTERACTION Mendel explained the phenomenon of discontinuous hereditary variation, which is expressed in separate and distinct forms that are associated with one kind of allele, such as tall versus short or wrinkled versus smooth. Continuous variations occur in many phenotypes, however, such as length or weight, is also commonly observed in nature and forms an apparently unbroken range from one extreme to another. This phenomenon, known as polygenic inheritance, results from the complex interaction among a set of genes. Human skin color, shades ranging from black through brown and yellow to white, is a good example of a trait determined by polygenes. Only an infinite number of polygenes, however, could give a perfectly continuous variation.

SEX DETERMINATION The phenotype of an organism is shaped not only by its genotype but also by the interaction of that genotype with the environment. It is often difficult to determine the relative contribution of genetic and environmental variation to a particular phenotype.

SEX DETERMINATION The sex of an organism is usually an inherited phenotype. In haploid forms, alleles of one gene pair can determine sex, but in higher organisms sex is often associated with a special pair of chromosomes called sex chromosomes. For example, human cells

contain 22 pairs of autosomes, or nonsex chromosomes, and one pair of sex chromosomes. Women possess two identical sex chromosomes (X and X), and men possess two different sex chromosomes (X and Y). The presence or absence of the Y chromosome determines sex in humans; therefore, the Y contains the genes for male sex determination, called the "testis-determining factor" (tdf). In many higher plants, anthers and ovaries are located on separate plants (dioecism), and some of these have an X/Y-like chromosomal determination of sex. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

PRODIGY(R) interactive personal service 03/10/94 10:11
PM ACADEMIC AMERICAN ENCYCLOPEDIA
GENETICS In humans, the X chromosome bears genes that affect traits having nothing to do with the sex. Because they are located on the X, however, they show a special inheritance pattern different from autosomal gene inheritance; the Y chromosome apparently has no counterpart to these genes. Red-green color blindness and hemophilia are two genetic traits determined by X-linked genes. The X and the Y genes are able to separate into equal numbers of sperm in the male and produce a 1:1 ratio of males to females in the eggs that they fertilize. THE NATURE OF THE GENE The genetic material for most organisms, DNA, is a double-stranded helix comprising a long chain of nucleotide bases with a sugar-phosphate backbone, as proposed by James D. WATSON and Francis H. C. CRICK in 1953. Eukaryotic cells contain two kinds of DNA sequences: unique DNA, one copy present in a haploid gene set; and repetitive DNA, identical copies (one million or more) found dispersed throughout the chromosome. The unique segments probably contain regular genes. The function of repetitive DNA segments is not known, although they may be involved either in the process of chromosome pairing or in regulating the activity of the unique sequence. DNA of eukaryotic organisms appears to be wound around nucleosomes--small, beadlike units that each consist of about 200 base pairs of DNA and a complex structure of proteins known as histones. Nucleosomes help package the DNA into the chromosome--an average human chromosome is about 0.005 mm in length and contains 50 mm of DNA. During mitotic cell division chromosomal replication produces two identical daughter cells, each of which contains identical DNA, assuring the stability of the hereditary material. The DNA replication is semiconservative. This means that free nucleotides hydrogen-bond to each half of the separate DNA strands, resulting in two new DNA double helices each consisting of one-half old and one-half newly formed strands. Genes of the DNA in eukaryotic organisms (RNA in some viruses) control phenotype by coding for the structure of PROTEINS, which are the main structural and catalytic molecules in an organism; hair, muscle, skin, tendons, and enzymes are all proteinaceous. The order of the nucleotide bases in

DNA dictates the corresponding order of amino acids that give rise to a specific protein. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

Prodigy(R) interactive personal service 03/10/94 10:12
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GENETICS proteins their specific shape and function during PROTEIN SYNTHESIS. The protein-building information in DNA is copied into a single-stranded molecule, called messenger RNA (mRNA), that then moves to the cytoplasm, where protein synthesis occurs. The nucleotides in mRNA can be thought of as letters that are read in groups of three, called codons, each codon standing for an amino acid. The amino acids are transported to the mRNA by transfer RNA molecules, and the protein is assembled on the surface of ribosomes. In humans the DNA in each cell contains about 3 billion base pairs, distributed among 22 sets of autosomal chromosomes and one set of sex chromosomes in the nucleus as well as one set of chromosomes in each mitochondrion. If all of this DNA were stretched out, it would have a length of about 1 m (3 ft), but the DNA is tightly compressed into the chromosome. Only about 2 percent of a person's DNA forms the actual genes, as well; the rest constitutes either noncoding "spacer" regions between genes or noncoding "intron" regions within genes. The amount of DNA per cell varies tremendously within both animal and plant kingdoms and is unrelated to the taxonomic group concerned (see GENETIC CODE; GENOME).
MUTATION is the process by which genes change from one form to another. Mutations may be caused by such mutagens as X rays, ultraviolet rays, nitrous acid, ethyl methane sulfonate, and nitrosoguanidine; less frequently, mutations may occur spontaneously as a result of accidental changes in the chemistry of the cell. Because mutation is random, haphazard change, most mutants contain damaged genes that are nonfunctional. Mutants usually do not live long in nature; geneticists and breeders, however, may keep mutants alive for study or for use in producing new plant and animal forms in agriculture. A mutation in DNA usually results in an altered nucleotide sequence, either by substitution, addition, deletion, or insertion, which is translated into an altered amino-acid sequence that usually produces a change in the organism's normal body function. The alteration of amino acids can have a drastic effect on function, as in the case of sickle-cell hemoglobin. A mutation of the chromosome by transposition, translocation, or insertion can cause similar effects. Mutations of cells other than sex cells are considered to be asexual.
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GENETICS primary cause of cancer in those tissues. All humans carry quite a large number of deleterious and lethal mutant genes that are recessive. Each mating is a kind of a lottery, in which the offspring reveal whether or not the parents' mutations are at identical loci. For example, if both parents are heterozygous (Aa) for a gene pair in which the recessive allele is deleterious, then one-fourth of their children will show genetic disease of the kind controlled by that locus. Genetic counseling can often help prospective mates in determining whether such diseases will manifest in their offspring (see also GENETIC IMPRINTING).

GENES IN DEVELOPMENT Most organisms start life as single cells (zygotes) and grow into massive multicellular bodies with cells of considerable differences in form and function. This process, which involves growth and differentiation, is called DEVELOPMENT. Although skin cells, liver cells, brain cells, and so on, are highly differentiated, they are all derived from the original zygote as a result of the high-fidelity copying of DNA during mitotic division. This is achieved by a complex, little-understood process whereby different genes are active in different tissues. The best examples of gene regulation are found in bacteria, where genes of related function are grouped on the chromosome together with a special class of regulatory genes to form an operon, which is a kind of control unit. The operon theory was proposed by Francois Jacob and Jacques Monod in 1961. Regulatory genes, usually responding to environmental cues, either assist or prevent the passage of the mRNA synthesis enzyme, RNA polymerase, along the operon, thereby controlling gene activity. No satisfactory examples of operons have been found at present in higher organisms, but several examples of regulatory genes are known, although these are not necessarily linked to a controlled locus. Repetitive DNA that is interspersed between unique DNA has been postulated as a site of a vast system of regulatory genes.

GENES IN CYTOPLASMIC ORGANELLES Although most genes are found in the chromosomes of the nucleus, two kinds of cytoplasmic organelles, mitochondria and

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chloroplasts, also contain certain genes. Phenotypes determined by these genes are inherited through the female parent. Maternal or uniparental inheritance has been extensively studied in microorganisms, notably the unicellular algae, chlamydomonas, and several fungi. In Chlamydomonas, a variety of drug-resistant and morphological phenotypes are involved. In fungi, sensitivity to certain drugs, such as erythromycin, paramomycin, and oligomycin, can be cytoplasmically inherited, as can some kinds of poor

growth phenotypes ("petites" in yeast and "poky" in the bread mold *Neurospora*). The mitochondria and chloroplasts carry their own DNA, which is circular and unlike nuclear DNA in nucleotide composition. They also contain their own autonomous protein-synthesizing system, many parts of which are coded by organellar DNA genes. Many other components of the mitochondria and chloroplasts, such as cytochromes, are coded by genes of nuclear DNA. These organelles are therefore composed of a mixture of components with DNA blueprints located in both the nucleus and the organelle. The specific synthesizing machinery of mitochondrion, together with its shape and size, have suggested to some that the mitochondrion is a vestige of a primitive symbiotic association with bacteria. Similarly, the structure and functions of a chloroplast are reminiscent of the primitive blue-green algae. This kind of evolution, in which complexity results from the adoption of an internal collection of simpler cells, is called hereditary symbiosis and may have been important in the development of modern cells.

GENES IN POPULATIONS

Mendelian genetics can predict the inheritance patterns within families, but one should not expect to see similar patterns and ratios in populations, which are complex mixtures of different families. A different approach, sometimes called population genetics, is used to analyze genetic distribution in populations. Each locus contains two alleles (A and a) of one gene. The gene pool of a population is derived by considering each diploid individual to be one cell bearing two genes at that locus. The total number of A and a genes in a population is calculated and an allele frequency for each is obtained. Usually, the frequency of A is called p, and the frequency of a is called q. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

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 GENETICS
 is called q, where $p + q = 1$ (or 100%). The allele frequencies are the main determinants of the genetic structure of populations. If mating is random for example, there will be p^2 of AA, $2pq$ of Aa, and q^2 of aa. This genotype distribution, which is stable if all other factors are constant, is called Hardy-Weinberg equilibrium, named after its discoverers. At its most fundamental level, evolution is little more than a change in relative allele frequencies. The actual values of p and q at each locus are determined by the complex interaction of many forces, including mutation from A to a, mutation from a to A (reversion, which is usually less frequent than forward mutation), chance fluctuation due to small populations (producing genetic drift of allele frequencies), and natural selection for or against certain genotypes. In turn, selection can be directional, ultimately eliminating one allele from the population, or stabilizing, favoring intermediate genotypes and tending to maintain

several alleles and phenotypes in an interbreeding population, a phenomenon called genetic polymorphism. Preliminary results of a different form of genetic study of human evolution aroused controversy at the 1987 meeting of the American Anthropological Association. The research involved analyses of mitochondrial DNA in placental samples from women with a worldwide distribution of ancestry. Such DNA is inherited only from the mother, and through mutation studies the researchers hoped to trace human ancestry back to a "single" source--some generation of first humans. The results of a team of geneticists working at the University of California, Berkeley, suggested a human family tree with roots in sub-Saharan Africa some 140,000 to 200,000 years ago. Another team, at Emory University, proposed a common ancestor of similar age but in southeastern Asia. Anthropologists expressed considerable skepticism, however, about these results of what came to be known as the "Eve" hypothesis. Most anthropologists consider that the first true humans appeared much longer ago (see PREHISTORIC HUMANS). MODERN GENETICS Genetics is an important aspect of many areas of pure and applied biology. Viral genetics, microbial genetics, plant genetics, and animal genetics. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

PRODIGY(R) interactive personal service 03/10/94 10:13
 PM ACADEMIC AMERICAN ENCYCLOPEDIA
 GENETICS Genetics, animal genetics, and human genetics focus research on specific types of organisms. Research in molecular genetics involves studies on chemical structure and function; cytogenetics on location of the genetic material in cells and on cell division; developmental genetics on the genetic function in embryological phenomena; behavior genetics on the role of the gene in regulating behavior; and population genetics on the evolutionary process. At the applied level, genetics is of direct use in understanding genetic diseases and environmental mutation. It is used in plant and animal breeding to improve the quality and quantity of food. It also is a tool in basic research by which complex biological processes can be analyzed, often at the molecular level. A. J. W. Griffiths
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Human Genetics: Readings on the Implications of Genetic Engineering (1975); Scandalious, J. G., Molecular Genetics of Development (1987); Smith, Anthony, The Human Pedigree (1976); Spiess, E. B., Genes in Populations (1977); Suzuki, David T., and Griffiths, A. J., An Introduction to Genetic Analysis, 3d ed. (1986); Stent, G. S., and Calendar, R., Molecular Genetics (1978); Watson, James D., The Double Helix (1968); Watson, J. D., et al, The Molecular Biology of the Gene, 2 vols. (1987).

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E

Search - Health Care Financing 1989-1995

Item: 1

UI 95030071
AU Scalzi CC
AU Zinn JS
AU Guilfoyle MJ
AU Perdue ST
TI Medicare-certified home health services: national and regional supply in the 1980s.
SO Am J Public Health 1994 Oct;84(10):1646-8
JT AMERICAN JOURNAL OF PUBLIC HEALTH
AD School of Nursing, University of Pennsylvania, Philadelphia 19104-6096.
LA Eng
AB The number of Medicare-certified home health agencies nearly doubled from 1980 to 1990. Using **Health Care Financing** Administration data, this study documented national and regional patterns of entry and exist by Medicare home health providers from 1980 to 1990. Nationally, agency origination rates accelerated during the early 1980s and then dropped abruptly in the second half of the decade. The proprietary sector, accounting for approximately 42% of agencies in existence during the period of the study, exhibited the greatest volatility. Regional differences are also evident. Both expansion and contraction in Medicare home health services appear to be a response to the incentives of legislation implemented during this period.
PT JOURNAL ARTICLE
MJ Home Care Agencies /Classification
MJ Home Care Services /Supply & Distribution
MJ Medicare /Statistics & Numerical Data
MI Certification /Statistics & Numerical Data
MI Comparative Study
MI Data Collection
MI Home Care Agencies /Statistics & Numerical Data
MI Home Care Agencies /Standards
MI Home Care Services /Standards
MI Human
MI Ownership /Statistics & Numerical Data
MI United States

Item: 2

UI 95030061
AU Riley GF
AU Potosky AL
AU Lubitz JD
AU Brown ML
TI Stage of cancer at diagnosis for Medicare HMO and fee-for-service enrollees [see comments]
SO Am J Public Health 1994 Oct;84(10):1598-604
JT AMERICAN JOURNAL OF PUBLIC HEALTH
AD **Health Care Financing** Administration, Baltimore, MD 21207-5187.
LA Eng

AB OBJECTIVES. Health maintenance organizations (HMOs) with Medicare contracts often provide cancer screening and preventive services not covered under fee-for-service. This study compared cancer patients in HMOs and fee-for-service on stage at diagnosis. METHODS. The study examined stage at diagnosis for aged Medicare enrollees in HMOs and fee-for-service, using information from the Surveillance, Epidemiology, and End Results program, linked with Medicare enrollment files. Twelve cancer sites were investigated, and demographics, area of residence, year of diagnosis (1985 to 1989), and education at the census tract level were controlled. RESULTS. HMO enrollees were diagnosed at earlier stages for cancers of the female breast, cervix, colon, and melanomas and at later stages for stomach cancer. There were no differences for cancers of the prostate, rectum, buccal cavity and pharynx, bladder, uterus, kidney, and ovary. HMO effects were strongest in areas with large, mature HMOs. CONCLUSIONS. Compared with fee-for-service enrollees, HMO enrollees were diagnosed at earlier stages for cancer sites for which effective screening services are available. The earlier detection of certain cancers among HMO enrollees may result from coverage of screening services and, perhaps, promotion by HMOs of such services.

PT JOURNAL ARTICLE

MJ Fee-for-Service Plans /Utilization

MJ Health Maintenance Organizations /Utilization

MJ Medicare /Statistics & Numerical Data

MJ Neoplasm Staging

MJ Neoplasms /Pathology C4 C4.0

MI Age 19 and over

MI Aged

MI Comparative Study

MI Female

MI Health Promotion

MI Human

MI Male

MI Mass Screening /Statistics & Numerical Data

MI Neoplasms /Classification C4 C4.0

MI Preventive Health Services /Statistics & Numerical Data

MI Registries

MI SEER Program

MI Time Factors

MI United States

Item: 3

UI 95026353

AU Eggers PW

AU Kucken LE

TI Cost issues in transplantation.

SO Surg Clin North Am 1994 Oct;74(5):1259-67

JT SURGICAL CLINICS OF NORTH AMERICA

AD Program Evaluation Branch, **Health Care Financing** Administration, Baltimore, MD.

LA Eng
 AB Major clinical progress has been made in recent years in solid organ transplantation. With the exception of kidney transplantation, very little reliable information is available concerning the costs of organ transplantation. This article addresses problems in assessing organ transplantation costs and makes recommendations about research approaches. It is suggested that the United Network for Organ Sharing waiting lists are good sources for developing transplant cost studies.

PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Health Care Costs
 MJ Organ Transplantation /Economics
 MI Accounting
 MI Cost-Benefit Analysis
 MI Fees Medical
 MI Hospital Charges
 MI Human
 MI Insurance Health Reimbursement
 MI Organ Procurement /Economics
 MI Organ Transplantation /Adverse Effects
 MI United States

Item: 4

UI 95022424
 AU Voldish K
 TI Proficiency testing: now it is a reality.
 SO N J Med 1994 Aug;91(8):536-8
 JT NEW JERSEY MEDICINE
 AD POL Consultants, Haddonfield, NJ 08033.
 LA Eng
 AB On January 1, 1994, enrollment in an accredited proficiency testing program became mandatory under the CLIA regulations for physicians performing moderate and high complexity tests in their offices. Physicians not enrolled in programs are in violation of the standard.

PT JOURNAL ARTICLE
 MJ Clinical Competence
 MJ Diagnosis Laboratory /Standards
 MJ Educational Measurement
 MI Human
 MI New Jersey
 MI Physicians Offices /Standards
 MI United States
 MI United States** Health Care Financing** Administration

Item: 5

UI 95021058
 TI Implementation of the Medicare influenza vaccination benefit--United States, 1993.
 SO MMWR Morb Mortal Wkly Rep 1994 Oct 28;43(42):771-3

JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT

LA Eng

AB Influenza is a major cause of debilitating illness and premature death in the United States, particularly among persons aged > or = 65 years and those with chronic conditions such as lung or heart disease, diabetes, and cancer. Medicare reimbursement for excess hospitalizations during influenza epidemics ranges from \$750 million to \$1 billion (1). In May 1993, influenza vaccination became a covered Medicare benefit after its potential cost-effectiveness was established by the Medicare Influenza Vaccine Demonstration (2). During the fall of 1993, the **Health Care Financing** Administration (HCFA) initiated an information campaign to promote use of the influenza vaccination benefit, implemented simplified billing procedures, and improved electronic billing capabilities. However, reports during the 1993-94 influenza season suggested problems experienced by state and local health departments in implementing the new benefit. To characterize public influenza vaccination programs and problems with implementing this benefit, in the spring of 1994, CDC collected information from all 63 state and local health departments receiving federal immunization grants. This report summarizes the reports from these programs.

PT JOURNAL ARTICLE

MJ Immunization Programs /Utilization

MJ Influenza Vaccine /Economics

MJ Medicare

MI Age 19 and over

MI Aged

MI Human

MI Immunization Programs /Economics

MI United States

Item: 6

UI 95018921

AU Edelman TS

AU Holder E

AU Hulin CC

TI Physical therapy in skilled nursing facilities: a clarification of HCFA policy [letter]

SO JAMA 1994 Oct 19;272(15):1169-70

JT JAMA

LA Eng

PT LETTER

MJ Patient Care Planning

MJ Physical Therapy /Utilization

MJ Skilled Nursing Facilities

MI Human

MI United States

MI United States** Health Care Financing** Administration

Item: 7

UI 95018776

AU Olsson CA
AU Goluboff ET
TI Detection and treatment of prostate cancer: perspective of the urologist
[see comments]
SO J Urol 1994 Nov;152(5 Pt 2):1695-9
JT JOURNAL OF UROLOGY
AD Department of Urology, Squier Urologic Clinic, Columbia College of
Physicians and Surgeons, Columbia Presbyterian Medical Center, New York,
New York.
LA Eng
AB We examine changes in the detection and treatment of prostate cancer
from the perspective of the urologist. There has been an extraordinary
increase in the incidence of prostate cancer (60% from 1990 to 1993).
We calculated, based on data from the literature and assumptions about
changes in urological practice, that 52% of newly diagnosed cases would
be treated by radical prostatectomy in 1993. Extrapolating from the
work of Catalona, we derived the number of office consultations,
prostate biopsies and orchiectomies associated with the diagnosis and
treatment of these tumors. Applying **Health Care Financing**
Administration reimbursements to our figures, we calculated that each
urologist would realize \$45,370 for prostate cancer care in the Medicare
population in 1993. If all patients 50 to 70 years old were screened by
American Cancer Society and American Urological Association recommended
algorithms, this projection would be \$107,919. Despite this enormous
economic impact of prostate cancer on the urologist, uncertainties
remain concerning the appropriateness of screening and treatment for
this disease. Only increased funding for basic research in prostate
cancer will resolve these uncertainties.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Prostatic Neoplasms /Diagnosis
MJ Prostatic Neoplasms /Therapy
MJ Urology
MI Age 19 and over
MI Aged
MI Human
MI Male
MI Middle Age
MI Professional Practice /Statistics & Numerical Data
MI Prostatic Neoplasms /Epidemiology
MI United States /Epidemiology
MI Urology /Statistics & Numerical Data

Item: 8

UI 95013355
AU Griffiths RI
AU Powe NR
AU Gaskin DJ
AU Anderson GF

AU de Lissovoy GV
AU Whelton PK
TI The production of dialysis by for-profit versus not-for-profit
freestanding renal dialysis facilities.
SO Health Serv Res 1994 Oct;29(4):473-87
JT HEALTH SERVICES RESEARCH
AD Division of Internal Medicine, Johns Hopkins University School of
Medicine, Baltimore, MD 21205.
LA Eng
AB OBJECTIVE. A study was conducted to determine whether for-profit and
not-for-profit freestanding renal dialysis facilities differ with
respect to efficiency in the production of dialysis treatments. DATA
SOURCES/STUDY SETTING. National data on 1,224 Medicare-certified
freestanding dialysis facilities were obtained from the **Health Care
Financing** Administration's (HCFA) 1990 Independent Renal Dialysis
Facility Cost Report. Data on Medicare patients receiving care at these
facilities during 1990 were obtained from HCFA's End Stage Renal Disease
(ESRD) Program Management and Medical Information System (PMMIS). STUDY
DESIGN. Ordinary least squares regression (OLS) was used to estimate
the association between monthly output of dialysis treatments in 1990
and (a) facility capital and labor inputs, (b) facility ownership
characteristics, and (c) case-mix characteristics. DATA
COLLECTION/EXTRACTION METHODS. Facility and patient level data were
extracted from the Facility Cost Report and the PMMIS databases,
respectively. Patient level data were aggregated by facility and merged
with facility level data. PRINCIPAL FINDINGS. For-profit sole
proprietorships, for-profit partnerships and for-profit corporations
each produced significantly more dialysis treatments per month than
not-for-profits, adjusting for quantities of resource inputs and
case-mix characteristics. CONCLUSION. For-profit facilities appear to
be more efficient producers of dialysis treatments than not-for-profits.
Further study should address whether other factors such as differences
in severity of disease or in quality of care are responsible for these
observations.

PT JOURNAL ARTICLE
MJ Ambulatory Care Facilities /Organization & Administration
MJ Efficiency Organizational
MJ Hemodialysis /Economics
MJ Ownership
MI Age 19 and over
MI Ambulatory Care Facilities /Utilization
MI Capital Expenditures
MI Diagnosis-Related Groups /Economics
MI Female
MI Health Facilities Proprietary
MI Health Services Research
MI Hemodialysis /Utilization
MI Human
MI Least-Squares Analysis
MI Male

MI Medicare
MI Middle Age
MI Severity of Illness Index
MI Support U S Govt P H S
MI United States
MI United States** Health Care Financing** Administration
MI Workload /Economics

Item: 9

UI 95013354
AU Flanders WD
AU Shipp CC
AU FitzGerald DM
AU Lin LS
TI Analysis of variations in mortality rates with small numbers.
SO Health Serv Res 1994 Oct;29(4):461-71
JT HEALTH SERVICES RESEARCH
AD Georgia Medical Care Foundation, Atlanta.
LA Eng
AB OBJECTIVE. We present a Monte Carlo technique to evaluate if observed mortality rates differ from model-predicted rates for situations when the number of deaths is small. DATA SOURCES. We used Medicare hospital claims and model-predicted mortality rates from the **Health Care Financing** Administration (HCFA) for the 169 acute care hospitals in Georgia. The HCFA data provided model-predicted mortality rates at 30 days postadmission for 17 conditions and procedures of interest. The model-predicted rates calculated by HCFA were adjusted for patient factors, including demographic characteristics, principal diagnosis, and comorbidities. STUDY DESIGN. We test the hypothesis that model-predicted 30-day mortality rates at the 169 hospitals differ significantly from the observed 30-day mortality rates. Our approach uses a test statistic that resembles a chi-square statistic, and Monte Carlo simulations to estimate the distribution of the test statistic under the null hypothesis of no differences between the observed and predicted rates. We illustrate the method using two conceptually similar simulation models. We use results of the simulations to estimate p-values and compare these results with p-values associated with the nominal chi-square distribution. DATA EXTRACTION METHODS. We extracted 30-day observed and predicted mortality rates for Medicare beneficiaries for federal fiscal year 1990 for 17 conditions and procedures of interest. PRINCIPAL FINDINGS. If the number of deaths in some hospitals is small, p-values calculated using the nominal chi-square distribution can be misleading, thus supporting the usefulness of our simulation method. CONCLUSIONS. The Monte Carlo simulation is an appropriate approach to the analysis of hospital mortality or small area analysis for situations in which the number of deaths is small.
PT JOURNAL ARTICLE
MJ Analysis of Variance
MJ Hospital Mortality

MJ Models Statistical
MJ Monte Carlo Method
MJ Small-Area Analysis
MI Bias Epidemiology
MI Chi-Square Distribution
MI Comorbidity
MI Georgia /Epidemiology
MI Human
MI Medicare
MI Predictive Value of Tests
MI United States
MI United States** Health Care Financing** Administration

Item: 10

UI 95011993
AU Buto KA
TI How can Medicare keep pace with cutting-edge technology?
SO Health Aff (Millwood) 1994 Summer;13(3):137-40
JT HEALTH AFFAIRS
AD **Health Care Financing** Administration HCFA.
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Economics
MJ Technology Assessment Biomedical /Economics
MI Clinical Trials /Economics
MI Health Policy /Economics
MI Human
MI Insurance Health Reimbursement /Economics
MI Insurance Health Reimbursement /Standards
MI United States

Item: 11

UI 95008796
AU Sullivan RE
TI Mr. Clinton has submitted a **health-care financing** reform bill
[letter]
SO Conn Med 1994 Aug;58(8):505
JT CONNECTICUT MEDICINE
LA Eng
PT LETTER
MJ Health Care Reform /Legislation & Jurisprudence
MI Financing Government
MI Health Care Reform /Economics
MI United States

Item: 12

UI 95005143
AU Kendix M
AU Getzen TE
TI US health services employment: a time series analysis.

SO Health Econ 1994 May-Jun;3(3):169-81
 JT HEALTH ECONOMICS
 AD **Health Care Financing** Administration, Office of Research and
 Demonstrations, Baltimore, MD 21207.
 LA Eng
 AB The growth of health services employment in the United States is
 modelled using ARIMA analysis, and related to the growth in total U.S.
 employment. It is argued that specific features of the medical care
 sector (licensed professional manpower, non-profit firms, third-party
 financing) create institutional rigidities which delay adjustment to
 macroeconomic conditions and other shocks. Tests of Granger causality
 and the pattern of coefficients in the cross-correlation function show
 that health services employment does lag other sectors of the economy by
 an average of 2 to 4 years. A Box-Jenkins transfer-noise function model
 between total and health employment is constructed and evaluated, and
 the impact dynamics of adjustment to Medicare and Medicaid are
 estimated.
 PT JOURNAL ARTICLE
 MJ Employment /Economics
 MJ Health Manpower /Economics
 MJ Models Econometric
 MI Employment /Statistics & Numerical Data
 MI Employment /Trends
 MI Health Expenditures /Statistics & Numerical Data
 MI Health Expenditures /Trends
 MI Health Manpower /Statistics & Numerical Data
 MI Health Manpower /Trends
 MI Human
 MI Medicaid /Economics
 MI Medicaid /Statistics & Numerical Data
 MI Medicaid /Trends
 MI Medicare /Economics
 MI Medicare /Statistics & Numerical Data
 MI Medicare /Trends
 MI Regression Analysis
 MI Reimbursement Mechanisms /Economics
 MI Reimbursement Mechanisms /Trends
 MI United States

Item: 13

UI 94376523
 AU Hartz AJ
 AU Guse C
 AU Sigmann P
 AU Krakauer H
 AU Goldman RS
 AU Hagen TC
 TI Severity of illness measures derived from the Uniform Clinical Data Set
 (UCDSS).
 SO Med Care 1994 Sep;32(9):881-901

JT MEDICAL CARE
AD Medical College of Wisconsin, Department of Family and Community
Medicine, Milwaukee 53226.
LA Eng
AB The ****Health Care Financing**** Administration (HCFA) plans to use the
Uniform Clinical Data Set System (UCDSS) to collect data on hospitalized
Medicare patients. This study examined the value of UCDSS data for
creating severity of illness measures. UCDSS data were obtained from a
study hospital and from a national data set for patients with pneumonia
(n = 528) and stroke (n = 565). Models to predict length of stay or an
adverse event were derived for each condition using HCFA claims data
alone, UCDSS data alone, and UCDSS data supplemented with additional
information also abstracted from charts. The models were derived from
one set of patients and validated on another. The R2 for predicting
length of stay in the validation data for the UCDSS model was 0.29 for
pneumonia and 0.19 for stroke compared to R2 values from the claims
model of 0.09 for stroke and 0.06 for pneumonia. UCDSS models also were
better than claims models for predicting adverse events. The best UCDSS
models included International Classification of Diseases, Ninth
Revision, Clinical Modification (ICD-9-CM) codes and other information
requiring clinical judgment, and were improved by adding more
information on patient functional status. Some findings were more
strongly associated with outcome for the study hospital than for the
national data. These results suggest that UCDSS models will predict
outcome much better than the claims based models currently used by HCFA
for the analysis of hospitalization-related mortality; more functional
status information should be added to UCDSS; and despite an extensive
objective database, the most predictive UCDSS models require
clinician-assigned diagnostic codes.

PT JOURNAL ARTICLE
MJ Information Systems /Utilization
MJ Models Statistical
MJ Outcome Assessment Health Care
MJ Severity of Illness Index
MI Aged
MI Cerebrovascular Disorders /Complications
MI Cerebrovascular Disorders /Mortality
MI Cerebrovascular Disorders /Therapy
MI Comparative Study
MI Diagnosis-Related Groups /Classification
MI Female
MI Hospital Mortality
MI Human
MI Insurance Claim Reporting /Statistics & Numerical Data
MI Length of Stay
MI Male
MI Outcome Assessment Health Care /Statistics & Numerical Data
MI Peer Review Health Care
MI Pneumonia /Complications
MI Pneumonia /Mortality

MI Pneumonia /Therapy
MI Predictive Value of Tests
MI Regression Analysis
MI Reproducibility of Results
MI United States /Epidemiology
MI United States** Health Care Financing** Administration
MI Age 19 and over

Item: 14

UI 94374066
AU Abrams FR
TI Putting the RAM into the cottage.
SO Colo Med 1994 Jul;91(7):228-9
JT COLORADO MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Databases Factual
MJ Quality Assurance Health Care
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 15

UI 94374026
AU Vogel RA
TI HCFA's Cooperative Cardiovascular Project: a nationwide quality assessment of acute myocardial infarction [editorial]
SO Clin Cardiol 1994 Jul;17(7):354-6
JT CLINICAL CARDIOLOGY
LA Eng
PT EDITORIAL
MJ Myocardial Infarction /Therapy
MJ Process Assessment Health Care
MJ Quality Assurance Health Care
MJ United States** Health Care Financing** Administration
MI Aged
MI Angioplasty Transluminal Percutaneous Coronary
MI Aspirin /Therapeutic Use
MI Coronary Artery Bypass
MI Human
MI Medicare
MI Myocardial Infarction /Drug Therapy
MI Myocardial Infarction /Surgery
MI Pilot Projects
MI Professional Review Organizations
MI Thrombolytic Therapy
MI United States
MI Age 19 and over

Item: 16

UI 94373759
 AU Mortenson LE
 TI Health care policies affecting the treatment of patients with cancer and cancer research.
 SO Cancer 1994 Oct 1;74(7 Suppl):2204-7
 JT CANCER
 AD Association of Community Cancer Centers, Rockville, MD 20852.
 LA Eng
 AB BACKGROUND. Reimbursement policies under the current **health care financing** system are chaotic, even for older individuals who might expect some measure of uniformity under federal statutes that govern coverage under Medicare. Policy changes at the federal level have increased the complexity and uncertainty of reimbursement for providers and patients. METHODS. The Association of Community Cancer Centers, in conjunction with a number of state medical oncology societies, distributed surveys to medical oncologists in 20 states during 1993. Eight hundred, fifty-six medical oncologists in 282 practices responded with information on their practices and insurance problems. RESULTS. Data illustrate the broad diversity of coverage for cancer treatment and research and its impact on treatment decisions and patient access. The broad spectrum of results from various states indicates significant differences in the implementation of federal policies on key issues, such as access to chemotherapeutic agents for off-label indications and clinical trials. CONCLUSIONS. The data portray the significant influence of insurance company policies on clinical research and disease prevention and treatment. Under the current system, prevention measures and prevention trials are discouraged, and a growing number of insurers are not paying for clinical research. New state and federal legislation offers some hope that uniformity of access to providers, prevention, off-label drugs, and clinical trials may be on the horizon.
 PT JOURNAL ARTICLE
 MJ Health Policy
 MJ Insurance Health Reimbursement
 MJ Neoplasms /Therapy C4 C4.0
 MJ Research
 MI Clinical Trials
 MI Costs and Cost Analysis
 MI Human
 MI Insurance Claim Review
 MI Insurance Health Reimbursement /Economics
 MI Managed Care Programs /Economics
 MI Medical Oncology /Economics
 MI Medical Oncology /Organization & Administration
 MI Medicare /Economics
 MI Neoplasms /Prevention & Control C4 C4.0
 MI Practice Management Medical /Economics
 MI United States

Item: 17

UI 94366445

AU Mickenberg ID
TI Medicare and payment for concurrent care [letter]
SO N Engl J Med 1994 Oct 13;331(15):1025-6
JT NEW ENGLAND JOURNAL OF MEDICINE
LA Eng
PT LETTER
MJ Continuity of Patient Care /Economics
MJ Medicare
MI Human
MI Primary Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 18

UI 94362740
AU Taylor KS
TI We're (almost) all connected. Providers' booming interest in telemedicine may spur more development.
SO Hosp Health Netw 1994 Sep 20;68(18):42-3, 45, 47
JT HOSPITALS AND HEALTH NETWORKS
LA Eng
PT JOURNAL ARTICLE
MJ Diffusion of Innovation
MJ Telemedicine /Trends
MI Health Maintenance Organizations /Trends
MI Hospitals /Trends
MI Insurance Health Reimbursement
MI Referral and Consultation /Economics
MI Telemedicine /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 19

UI 94358942
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Sep 14;272(10):761
JT JAMA
LA Eng
PT JOURNAL ARTICLE
MJ Data Collection
MJ Quality of Health Care
MI Ethnic Groups /Statistics & Numerical Data
MI Human
MI Racial Stocks
MI United States
MI United States** Health Care Financing** Administration

Item: 20

UI 94353285

AU Nichols AW
 AU LaBrec PA
 AU Homedes N
 AU Geller SE
 TI [The utilization of Arizona medical services by residents of Mexico]
 SO Salud Publica Mex 1994 Mar-Apr;36(2):129-39
 JT SALUD PUBLICA DE MEXICO
 AD Southwest Border Rural Health Research Center, College of Medicine,
 University of Arizona, Tucson 85716.
 LA Spa For
 AB Arizona physicians practicing in the four counties bordering Mexico were
 surveyed regarding the use of their services by residents of Mexico.
 One hundred eighty-eight (79%) of the 239 respondents to the mail survey
 reported seeing at least one Mexican resident per week during 1988.
 Ninety-nine of these physicians (53%) practiced in Tucson; 89 (47%)
 practiced elsewhere in the four border counties. The mean number of
 Mexican resident patients seen per week was nine (9% of total) for
 border physicians and 5 (6% of total) for Tucson physicians. The most
 frequent responses from border physicians asked to list the most common
 health conditions of their Mexican resident patients were injury and
 poisoning (21%) and circulatory diseases (11%), while the most frequent
 responses of Tucson physicians were circulatory diseases (10%) and
 digestive diseases (9%). Problems and solutions in the border care
 health system are mainly related to quality of care and **health care
 financing**.
 PT JOURNAL ARTICLE
 MJ Health Services /Utilization
 MJ Mexican Americans
 MI Adult
 MI Arizona
 MI English Abstract
 MI Female
 MI Health Personnel /Economics
 MI Health Personnel /Statistics & Numerical Data
 MI Health Personnel /Utilization
 MI Health Services /Economics
 MI Health Services /Statistics & Numerical Data
 MI Health Status
 MI Human
 MI Male
 MI Mexican Americans /Statistics & Numerical Data
 MI Mexico /Ethnology
 MI Middle Age
 MI Quality of Health Care /Statistics & Numerical Data
 MI Questionnaires
 MI Reimbursement Mechanisms /Statistics & Numerical Data
 MI Support U S Govt P H S
 MI Age 19 and over

UI 94353138
 AU Smith DW
 TI Evaluating risk adjustment by partitioning variation in hospital mortality rates.
 SO Stat Med 1994 May 30;13(10):1001-13
 JT STATISTICS IN MEDICINE
 AD Biostatistics and Epidemiology Department, College of Public Health, University of Oklahoma, Oklahoma City 73190.
 LA Eng
 AB The variation in mortality rates among hospitals has often been described informally as having three major components: patient severity, quality of care and random variation. These informal concepts are characterized formally by partitioning sums of squares and finding their expected values. The partition relates to commonly used tests for whether individual hospitals have unusual mortality rates. Application of the partition to the hospital mortality reports by the **Health Care Financing** Administration shows that their models for patient risk account for about one-half the variation among hospital mortality rates. An example using clinical measures of severity accounts for about two-thirds of mortality variation among hospitals.
 PT JOURNAL ARTICLE
 MJ Hospital Mortality
 MJ Outcome Assessment Health Care /Statistics & Numerical Data
 MI Confounding Factors Epidemiology
 MI Human
 MI Maryland
 MI Models Statistical
 MI Outcome Assessment Health Care /Standards
 MI Quality of Health Care
 MI Regression Analysis
 MI Risk
 MI Risk Factors
 MI Surgery Elective /Mortality

Item: 22

UI 94348565
 AU Bergman R
 TI On the dreaded HCFA outlier list: California hospital finds out why.
 SO Hosp Health Netw 1994 Sep 5;68(17):66
 JT HOSPITALS AND HEALTH NETWORKS
 LA Eng
 PT JOURNAL ARTICLE
 MJ Hospital Mortality
 MJ Quality of Health Care /Statistics & Numerical Data
 MJ United States** Health Care Financing** Administration
 MI Age Factors
 MI Aged
 MI Bias Epidemiology
 MI California /Epidemiology
 MI Data Collection /Standards

MI Data Interpretation Statistical
MI Human
MI Information Services
MI United States
MI Age 19 and over

Item: 23

UI 94342074
AU Fox MH
AU Phua KL
TI Using Medicaid claims data to evaluate a large physician fee increase.
SO Health Serv Res 1994 Aug;29(3):315-40
JT HEALTH SERVICES RESEARCH
AD Policy and Health Statistics Administration, Maryland Department of Health and Mental Hygiene, Baltimore, MD 21201.
LA Eng
AB OBJECTIVE. This study demonstrates the use of Medicaid claims data in order to evaluate a threefold fee increase in physician fees for deliveries (\$265 to \$795), which the Maryland Medicaid program implemented in 1986. DATA SOURCES AND STUDY SETTING. The study used Maryland Medicaid claims data for years of service 1985-1988, and was done at the Maryland Department of Health and Mental Hygiene with the help of a Robert Wood Johnson, **Health Care Financing** and Organization (HCFO) grant. STUDY DESIGN. Overall, our design is that of a pre-test, post-test with multiple observation points both before and after the fee increase. We measured participation in three ways, corresponding to three different units of analysis. With the county-quarter year as unit of analysis, we followed a panel of providers over 16 quarters for each county in the state to determine changes in the number of delivering providers. With the individual provider as the unit of analysis, we identified effects on their Medicaid caseload between years that may have been influenced by the fee increase. Finally, we looked at continuously enrolled Medicaid women who delivered to determine the effects of the fee increase on site and volume of prenatal care. DATA COLLECTION/EXTRACTION METHODS. Analytic files for each unit of analysis were compiled from previously extracted Medicaid claims files using standard statistical software packages. PRINCIPAL FINDINGS. Using techniques described, we were able to get an in-depth picture of overall responsiveness to the intervention. We found a moderate influence of the fee increase on overall participation, less than what we would have predicted. CONCLUSIONS. Administrative data can be used to construct efficient, yet sophisticated evaluations of major policy changes. Findings from our evaluation suggest a moderate effect of the fee increase on overall participation. However, raising fees to the level of private third party payers does not in itself guarantee equal access to private physician health care for Medicaid mothers.
PT JOURNAL ARTICLE
MJ Delivery /Economics
MJ Fees Medical

- MJ Insurance Claim Review
- MJ Medicaid /Economics
- MJ Obstetrics /Economics
- MI Adolescence
- MI Adult
- MI Comparative Study
- MI Delivery /Statistics & Numerical Data
- MI Evaluation Studies
- MI Female
- MI Health Services Needs and Demand /Economics
- MI Human
- MI Insurance Health Reimbursement /Economics
- MI Male
- MI Maryland
- MI Physicians Practice Patterns /Economics
- MI Pregnancy
- MI Prenatal Care /Economics
- MI Prenatal Care /Utilization
- MI Private Practice /Utilization
- MI Support, Non-U.S. Gov't
- MI United States
- MI Age 18 and under
- MI Age 19 and over

Item: 24

- UI 94342073
- AU Warshawsky MJ
- TI Projections of health care expenditures as a share of the GDP: actuarial and macroeconomic approaches.
- SO Health Serv Res 1994 Aug;29(3):293-313
- JT HEALTH SERVICES RESEARCH
- AD Internal Revenue Service, Washington, DC 20224.
- LA Eng
- AB STUDY QUESTION. Can the steady increases in health care expenditures as a share of GDP projected by widely cited actuarial models be rationalized by a macroeconomic model with sensible parameters and specification? DATA SOURCES. National Income and Product Accounts, and Social Security and **Health Care Financing** Administration are the data sources used in parameters estimates. STUDY DESIGN. Health care expenditures as a share of gross domestic product (GDP) are projected using two methodological approaches--actuarial and macroeconomic--and under various assumptions. The general equilibrium macroeconomic approach has the advantage of allowing an investigation of the causes of growth in the health care sector and its consequences for the overall economy. DATA COLLECTION METHODS. Simulations are used. PRINCIPAL FINDINGS. Both models unanimously project a continued increase in the ratio of health care expenditures to GDP. Under the most conservative assumptions, that is, robust economic growth, improved demographic trends, or a significant moderation in the rate of health care price inflation, the health care sector will consume more than a quarter of

national output by 2065. Under other (perhaps more realistic) assumptions, including a continuation of current trends, both approaches predict that health care expenditures will comprise between a third and a half of national output. In the macroeconomic model, the increasing use of capital goods in the health care sector explains the observed rise in relative prices. Moreover, this "capital deepening" implies that a relatively modest fraction of the labor force is employed in health care and that the rest of the economy is increasingly starved for capital, resulting in a declining standard of living.

PT JOURNAL ARTICLE
MJ Actuarial Analysis
MJ Economics
MJ Health Expenditures
MI Adult
MI Aged
MI Aged 80 and over
MI Costs and Cost Analysis /Economics
MI Demography
MI Female
MI Forecasting
MI Health Expenditures /Statistics & Numerical Data
MI Health Expenditures /Trends
MI Health Manpower /Economics
MI Human
MI Inflation Economic
MI Male
MI Middle Age
MI United States
MI Age 19 and over

Item: 25

UI 94337896
AU Oldridge NB
AU Yuan Z
AU Stoll JE
AU Rimm AR
TI Lumbar spine surgery and mortality among Medicare beneficiaries, 1986.
SO Am J Public Health 1994 Aug;84(8):1292-8
JT AMERICAN JOURNAL OF PUBLIC HEALTH
AD Department of Health Sciences, University of Wisconsin, Milwaukee 53201.
LA Eng
AB OBJECTIVES. The purpose of this study was to compare lumbar spine surgical procedures by age, gender, and number of comorbidities with respect to mortality in patients 65 years of age and older in the United States. METHODS. A 100% sample of the 1986 Medicare inpatient **Health Care Financing** Administration claims files databases involving lumbar spine surgical procedures was analyzed. RESULTS. Lumbar spine surgery in 34,418 patients (median age = 71 years) was associated with a significant increase in in-hospital and 1-year cumulative mortality only beyond 80 years of age. When adjusted for age, in-hospital and 1-year

cumulative mortality with both decompression and excision procedures were significantly higher in men than in women. When adjusted for both age and gender, mortality increased significantly as the number of comorbidities increased. CONCLUSIONS. With lumbar spine surgery in elderly patients, mortality did not significantly increase until 80 years of age and was consistently associated with decompression and excision, with male gender, and with an increase in number of comorbidities.

PT JOURNAL ARTICLE
MJ Health Services Research
MJ Low Back Pain /Mortality
MJ Low Back Pain /Surgery
MJ Medicare
MI Age Factors
MI Aged
MI Aged 80 and over
MI Comorbidity
MI Comparative Study
MI Databases Factual
MI Female
MI Hospital Mortality
MI Human
MI Insurance Claim Reporting
MI Laminectomy /Mortality
MI Logistic Models
MI Low Back Pain /Etiology
MI Male
MI Outcome Assessment Health Care
MI Risk Factors
MI Sex Factors
MI Spinal Fusion /Mortality
MI Support U S Govt P H S
MI United States /Epidemiology
MI Age 19 and over

Item: 26

UI 94337891
AU Warren JL
AU Bacon WE
AU Harris T
AU McBean AM
AU Foley DJ
AU Phillips C
TI The burden and outcomes associated with dehydration among US elderly, 1991.
SO Am J Public Health 1994 Aug;84(8):1265-9
JT AMERICAN JOURNAL OF PUBLIC HEALTH
AD Epidemiology Branch, **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng

AB OBJECTIVES. Dehydration has been underappreciated as a cause of hospitalization and increased hospital-associated mortality in older people. This study used national data to analyze the burden and outcomes following hospitalizations with dehydration in the elderly. METHODS. Data from 1991 Medicare files were used to calculate rates of hospitalization with dehydration, to examine demographic characteristics and concomitant diagnoses associated with dehydration, and to analyze the contribution of dehydration to mortality. RESULTS. In 1991, 6.7% (731,695) of Medicare hospitalizations had dehydration listed as one of the five reported diagnoses, a rate of 236.2/10,000 elderly Medicare beneficiaries. In 1991, Medicare reimbursed over \$446 million for hospitalizations with dehydration as the principal diagnosis. Older people, men, and Blacks had elevated risks for hospitalization with dehydration. Acute infections, such as pneumonia and urinary tract infections, were frequent concomitant diagnoses. About 50% of elderly Medicare beneficiaries hospitalized with dehydration died within a year of admission. CONCLUSIONS. Hospitalization of elderly people with dehydration is a serious and costly medical problem. Attention should be focused on understanding predisposing factors and devising strategies for prevention.

PT JOURNAL ARTICLE

MJ Cost of Illness

MJ Dehydration /Mortality

MJ Outcome Assessment Health Care

MJ Patient Admission /Statistics & Numerical Data

MJ Population Surveillance

MI Age Factors

MI Aged

MI Aged 80 and over

MI Comorbidity

MI Dehydration /Diagnosis

MI Dehydration /Economics

MI Dehydration /Prevention & Control

MI Female

MI Health Care Costs

MI Health Services Research

MI Hospital Mortality

MI Human

MI Insurance Health Reimbursement /Statistics & Numerical Data

MI Male

MI Medicare /Statistics & Numerical Data

MI Prognosis

MI Risk Factors

MI United States /Epidemiology

MI Age 19 and over

Item: 27

UI 94336039

AU Lanska DJ

AU Kryscio R

TI Geographic distribution of hospitalization rates, case fatality, and
mortality from stroke in the United States.
SO Neurology 1994 Aug;44(8):1541-50
JT NEUROLOGY
AD Department of Neurology, University of Kentucky, Lexington 40536-0084.
LA Eng
AB We analyzed state-specific stroke-hospitalization, case-fatality, and
mortality rates for the US Medicare population for 1989, using national
data resources of the **Health Care Financing** Administration (HCFA),
the National Center for Health Statistics, and the Bureau of the Census.
State-specific hospital admission rates for stroke ranged from 0.66 to
1.26%, compared with the national value of 0.94%. Both hospital-usage
rates and deviations of observed rates from predicted values (based on
statistical models of the HCFA) showed significant spatial
autocorrelation, with high rates clustered in the southeastern United
States and low rates clustered in the Mountain census division of the
West and also somewhat in the Northeast. Case-fatality rates increased
nationally from 14.9% at 15 days after hospital admission to 31.2% at
180 days after hospital admission. State-level case-fatality rates
showed relatively little interstate variation and no clear or consistent
spatial pattern, although there was statistically significant spatial
autocorrelation at several intervals after hospital admission.
Admission rates and case-fatality rates were not significantly
associated at any interval after admission to 180 days, suggesting that
variation in case-fatality rates was not simply a result of differences
in severity-of-illness thresholds for hospital admission.
State-specific stroke-mortality rates ranged from 294.5 to 523.5 per
100,000 population, compared with the national value of 415.3 per 100,
000 population. State-specific mortality rates for stroke showed
significant spatial autocorrelation, with high rates clustered in the
South and low rates clustered in the Northeast and the Mountain census
division of the West. The spatial distribution of stroke-mortality rates
strongly resembled the spatial distribution of hospitalization rates but
did not resemble the spatial distribution of case-fatality rates at any
interval from 15 to 180 days after hospital admission. Indeed, in
univariate spatial-regression models fitted to the data using a maximum
likelihood procedure and weighted for non-constant variances, the best
predictor of state-level stroke-mortality rates was the
hospital-utilization rate for stroke; attempts to improve the model by
including case fatality at various intervals and interaction terms did
not yield a significant improvement. These data suggest that factors
determining stroke occurrence and hospital utilization are more
important than factors determining case fatality in terms of explaining
the long-standing distribution of stroke mortality in the United States.
Factors affecting only case fatality but not hospitalization, such as
the quality of medical care provided in the hospital, cannot explain the
geographic distribution of stroke mortality in the United States.
PT JOURNAL ARTICLE
MJ Cerebrovascular Disorders /Mortality
MJ Hospital Mortality

MJ Hospitals /Utilization
MJ Patient Admission /Statistics & Numerical Data
MI Aged
MI Cerebrovascular Disorders /Therapy
MI Geography
MI Human
MI Medicare /Statistics & Numerical Data
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S
MI United States /Epidemiology
MI Age 19 and over

Item: 28

UI 94334638
AU Larimore WL
AU Zuber TJ
TI Coding and reimbursement for gastrointestinal endoscopic procedures in primary care.
SO J Fam Pract 1994 Aug;39(2):153-9
JT JOURNAL OF FAMILY PRACTICE
AD National Procedures Institute, Midland, MI 48640.
LA Eng
AB Endoscopic diagnostic procedures have become part of the comprehensive care provided by many primary care physicians, and when these physicians interact with third-party payers, they must correctly report the endoscopic services they have provided. Included in this review are commonly used upper and lower gastrointestinal endoscopic procedure codes; corresponding reimbursement values from one state's Medicare and Medicaid program; lists of diagnosis codes used in reporting upper and lower endoscopy services; and instructions for reporting visits and intravenous anesthesia associated with endoscopy procedures.
PT JOURNAL ARTICLE
MJ Endoscopy Gastrointestinal /Economics
MJ Primary Health Care /Economics
MJ Reimbursement Mechanisms
MJ Relative Value Scales
MI Anesthesia Intravenous /Economics
MI Biopsy /Economics
MI Diagnosis-Related Groups /Classification
MI Diagnosis-Related Groups /Economics
MI Endoscopy Gastrointestinal /Classification
MI Fees Medical
MI Human
MI Insurance Claim Reporting
MI Medicaid /Economics
MI Medicare Part B /Economics
MI Monitoring Physiologic /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 29

UI 94324809
TI Registered nurse first assistants continue efforts to secure recognition, reimbursement.
SO AORN J 1994 Jun;59(6):1320, 1323-4
JT AORN JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Nursing Services /Legislation & Jurisprudence
MJ Operating Room Nursing /Legislation & Jurisprudence
MI Human
MI Operating Room Nursing /Economics
MI Operating Room Nursing /Organization & Administration
MI State Government
MI United States
MI United States** Health Care Financing** Administration

Item: 30

UI 94324392
AU Eggers PW
AU Greer J
AU Jencks S
TI The use of **Health Care Financing** Administration data for the development of a quality improvement project on the treatment of anemia.
SO Am J Kidney Dis 1994 Aug;24(2):247-54
JT AMERICAN JOURNAL OF KIDNEY DISEASES
AD Program Evaluation Branch, Health Standards and Quality Bureau, **Health Care Financing** Administration, Baltimore, MD.
LA Eng
AB The **Health Care Financing** Administration maintains a wide array of data systems that are essential to the functioning of the Medicare program. These data, collected and maintained for the purposes of ensuring entitlements and payment for services, also can be used to monitor programmatic changes and to define potential problem areas. The end-stage renal disease (ESRD) Program Management and Medical Information System (PMMIS) is a subset of the larger Medicare statistical system. It is a historic record of all Medicare ESRD beneficiaries dating back to 1978. Basic Medicare enrollment information on ESRD beneficiaries is enhanced with the addition of information on the cause of renal failure, type of dialysis therapy, transplantation history, and cause of death. The ESRD PMMIS has been put to a number of uses in the past decade or so, ranging from basic descriptive epidemiology to analyses of mortality rates to assessments of programmatic issues such as the composite rate and dialyzer reuse. Because of the limited clinical detail in the PMMIS, there are many specific questions that cannot be adequately addressed. With approval of the Food and Drug Administration and Medicare coverage of erythropoietin, a erythropoietin monitoring system was developed to assess utilization trends of this anemia control drug. Within a few

months it became evident that dosing levels for erythropoietin were much lower than expected from the clinical trials. Following a change in the payment method from a fixed amount to one based on dose level, dosing has increased markedly. However, hematocrit levels still remain below optimal levels. This lack of hematocrit response has led the **Health Care Financing** Administration, in concert with the renal community, to target anemia control as a potential health care quality improvement project. This paper presents an example of the type of data presentation that can be derived from the current PMMIS. The Health Standards and Quality Bureau has made a commitment to a program of continuous quality improvement. Part of this process is the provision of descriptive data that can be the starting point for an iterative approach to quality improvement.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Anemia /Drug Therapy
MJ Erythropoietin /Economics
MJ Kidney Failure Chronic /Complications
MJ Medicare /Standards
MJ Quality Assurance Health Care /Economics
MI Anemia /Etiology
MI Erythropoietin /Therapeutic Use
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 31

UI 94324391
AU Levinsky NG
AU Mesler DE
TI Measuring, managing, and improving the quality of end-stage renal disease care.
SO Am J Kidney Dis 1994 Aug;24(2):235-46
JT AMERICAN JOURNAL OF KIDNEY DISEASES
AD Department of Medicine, Boston University Medical Center, MA 02118.
LA Eng
AB As the federal end-stage renal disease (ESRD) program enters its third decade, it continues to grow both in terms of patient enrollment and cost. High visibility as well as patient, physician, and societal concerns regarding ESRD treatment outcomes and expenditures make the development of improved and expanded quality assurance and improvement (QA/QI) mechanisms for the ESRD program vital. The purpose of a QA/QI program is to identify and apply techniques for assessing and improving ESRD care quality to achieve the best possible outcome for all patients who can benefit medically, within the expenditure constraints set by society. Current QA knowledge and methods are reviewed in this article and are judged to be useful but of limited value. Limitations of current quality assessment tools, provider resistance, and inadequate governmental support are substantial barriers to implementation of a QA

program. An ESRD QA/QI program should develop improved QA tools at the same time that available tools are cautiously put to work. Such a program would be based in individual treatment units, using existing network and US Renal Data System structures and a new national ESRD QA committee for support and oversight. As additional ESRD QA data become available, providers would incorporate the new information into decision making at all levels to enhance patient outcome. Substantial financial support from the government will be needed to implement such a quality program. A comprehensive ESRD QA program could serve as a model for QA for the national health care system.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Kidney Failure Chronic /Therapy
MJ Medicare /Standards
MJ Outcome and Process Assessment Health Care /Organization & Administration
MJ Quality Assurance Health Care /Organization & Administration
MI Hemodialysis Units Hospital /Economics
MI Hemodialysis Units Hospital /Standards
MI Human
MI Medicare /Organization & Administration
MI Support, Non-U.S. Gov't
MI United States
MI United States** Health Care Financing** Administration

Item: 32

UI 94324389
AU Rettig RA
AU Lohr KN
TI Measuring, managing, and improving quality in the end-stage renal disease treatment setting: conference overview.
SO Am J Kidney Dis 1994 Aug;24(2):228-34
JT AMERICAN JOURNAL OF KIDNEY DISEASES
AD Institute of Medicine, National Academy of Sciences, Washington, DC 20418.
LA Eng
PT CONGRESS
MJ Kidney Failure Chronic /Therapy
MJ Outcome and Process Assessment Health Care /Organization & Administration
MJ Quality Assurance Health Care /Organization & Administration
MI Hemodialysis Units Hospital /Standards
MI Human
MI Kidney Failure Chronic /Physiopathology
MI Severity of Illness Index
MI United States
MI United States** Health Care Financing** Administration

Item: 33

UI 94323609
 AU Thomas N
 AU Longford NT
 AU Rolph JE
 TI Empirical Bayes methods for estimating hospital-specific mortality rates.
 SO Stat Med 1994 May 15;13(9):889-903
 JT STATISTICS IN MEDICINE
 AD Educational Testing Service, Princeton, NJ 08541.
 LA Eng
 AB We present alternative methods for estimating hospital-level mortality rates to those used by the Health Care Finance Administration for Medicare patients. We use an empirical Bayes model to represent the different sources of variation in observed hospital-specific mortality rates and we use a logistic regression model to adjust for severity differences (in patient mix) across hospitals. In addition to providing a principled derivation of a standard error for the commonly used estimator, our fully model-based formulation produces much more accurate estimates and resolves the severe problem of multiple comparisons that arises when extreme estimates are used to identify exceptional hospitals. We estimate models for each of four disease conditions using the national Medicare mortality data base which does not contain patient severity descriptors, and mortality data from national samples which do include patient severity descriptors. We find substantial between-hospital variation in the unadjusted death rates from the national data base. Mortality rates differ substantially with patient severity in our models, but the sample sizes are too small to yield reliable estimates of the between-hospital variation in adjusted mortality rates.
 PT JOURNAL ARTICLE
 MJ Bayes Theorem
 MJ Hospital Mortality
 MI Cerebrovascular Disorders /Mortality
 MI Diagnosis-Related Groups /Statistics & Numerical Data
 MI Heart Failure Congestive /Mortality
 MI Human
 MI Medicare /Statistics & Numerical Data
 MI Myocardial Infarction /Mortality
 MI Pneumonia /Mortality
 MI Prospective Payment System /Statistics & Numerical Data
 MI Quality Assurance Health Care /Statistics & Numerical Data
 MI Severity of Illness Index
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Survival Analysis
 MI Survival Rate
 MI United States
 MI United States** Health Care Financing** Administration

UI 94320432
AU Meehan TP
AU Petrillo MK
TI A collaborative effort to improve cardiovascular care in Connecticut.
SO Conn Med 1994 Apr;58(4):199-202
JT CONNECTICUT MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Cardiovascular Diseases /Economics C14 C14.0
MJ Health Care Reform /Trends
MJ Hospital Information Systems /Economics
MJ Medicare Part A /Economics
MJ Myocardial Infarction /Economics
MJ United States** Health Care Financing** Administration /Trends
MI Cardiovascular Diseases /Therapy C14 C14.0
MI Comparative Study
MI Connecticut
MI Human
MI Myocardial Infarction /Therapy
MI Pilot Projects
MI Research Design
MI United States

Item: 35

UI 94318146
AU Noss E
TI The final revision: Section 2079.
SO Ostomy Wound Manage 1994 Apr;40(3):14, 16
JT OSTOMY/WOUND MANAGEMENT
LA Eng
PT JOURNAL ARTICLE
MJ Bandages /Economics
MJ Health Policy /Legislation & Jurisprudence
MJ Reimbursement Mechanisms /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 36

UI 94305602
AU Hartz AJ
AU Sigmann P
AU Guse C
AU Hagen TC
TI The value of the Uniform Clinical Data Set System (UCDSS) in a hospital setting.
SO Jt Comm J Qual Improv 1994 Mar;20(3):140-51
JT JOINT COMMISSION JOURNAL ON QUALITY IMPROVEMENT
AD Family and Community Medicine, Medical College of Wisconsin, Milwaukee 53226.

LA Eng
AB BACKGROUND: The **Health Care Financing** Administration designed the Uniform Clinical Data Set System (UCDSS) to help peer review organizations (PROs) identify problems with patient care. The system currently is being piloted in five states and may be used for the PRO review of Medicare patients from all states by January 1995. This study tested whether UCDSS could be used with modifications for effective internal hospital quality review. METHODS: The UCDSS includes a computer program for collecting information from the medical record and 359 computerized algorithms that evaluate quality of care. For this study, 2,313 randomly chosen medical records from a tertiary care teaching hospital were abstracted with the UCDSS at the time of discharge. Cases flagged by the UCDSS algorithms as having potential quality-of-care problems were referred to a clinical reviewer to evaluate whether the flag was a true positive and to identify reasons for false-positive flags. The algorithms were modified based on this hospital's experience by adding the reasons for false-positive flags as exceptions to the algorithm rules. RESULTS: To abstract the data with the UCDSS required a median time of 45 minutes and a mean time of 55 minutes per medical record. The percentages of algorithm flags that were confirmed upon physician review to have a quality problem were estimated to be 21% for the UCDSS and 43% for the modified UCDSS. The confirmed problem rate varied substantially by algorithm. Confirmed problems were the source of numerous departmental and individual discussions and led to changes in five departmental procedures. CONCLUSIONS: Although the results of this study are preliminary and require further verification, they suggest that with modifications and careful attention to implementation, the UCDSS may be an expensive but potentially useful tool for in-hospital quality review. In-hospital employment of the UCDSS offers more opportunities for practical use of algorithms for continuous quality improvement rather than the sometimes punitive use of system findings by PROs.

PT JOURNAL ARTICLE
MJ Abstracting and Indexing
MJ Algorithms
MJ Hospital Information Systems
MJ Professional Review Organizations
MJ Quality Assurance Health Care /Organization & Administration
MI Adult
MI Aged
MI Evaluation Studies
MI Female
MI Hospital Bed Capacity 100 to 299
MI Hospitals Teaching /Organization & Administration
MI Hospitals Teaching /Standards
MI Human
MI Male
MI Middle Age
MI Reproducibility of Results
MI Research Design

MI Support, Non-U.S. Gov't
MI Time Factors
MI United States
MI United States** Health Care Financing** Administration
MI Wisconsin
MI Age 19 and over

Item: 37

UI 94300631
AU Chow WH
AU Gridley G
AU McLaughlin JK
AU Mandel JS
AU Wacholder S
AU Blot WJ
AU Niwa S
AU Fraumeni JF Jr

TI Protein intake and risk of renal cell cancer.

SO J Natl Cancer Inst 1994 Aug 3;86(15):1131-9

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE

AD Division of Cancer Etiology, National Cancer Institute, Bethesda, Md.

LA Eng

AB BACKGROUND: Renal cell cancer, although still relatively uncommon, has been increasing in incidence in the United States and other countries around the world. PURPOSE: Since previous studies have suggested an association with high intake of meat, we sought to further examine the role of diet in renal cell cancer risk. METHODS: Patients with histologically confirmed renal cell cancer that had been diagnosed between July 1, 1988, and December 31, 1990, were identified through the Minnesota Cancer Surveillance System, a statewide cancer registry. The patients eligible for inclusion in this study were white residents of Minnesota between 20 and 79 years of age. Control subjects were selected from the general population of Minnesota residents; subjects under age 65 were selected by use of a random-digit-dialing method and those 65 years or older were sampled from the **Health Care Financing** Administration files. Population-based control subjects were frequency-matched to cases by sex and 5-year age groups. A total of 690 patients and 707 control subjects were interviewed. Patients and control subjects were similar in distribution by sex, age, and educational level. Usual adult dietary intakes were assessed by questionnaire, and odds ratios were calculated by logistic regression analyses. RESULTS: Significantly increased risks of renal cell cancer were observed with increasing consumption of several food groups, including red meat (P for trend = .05), high-protein foods (P = .01), and staple (grains, breads, and potatoes) foods (P = .009). When examined by macronutrient status, risks increased monotonically with the amount of protein intake, from 1.2 (95% confidence interval [CI] = 0.7-1.9) to 1.4 (95% CI = 0.8-2.5) and 1.9 (95% CI = 1.0-3.6) (P for trend = .03) in the second, third, and fourth quartiles of intake, respectively, after adjustment for age, sex, caloric intake, body mass

index, and cigarette smoking. No significant or consistent associations were detected with the intake of other dietary nutrients or beverages.

CONCLUSION: Although an independent effect of dietary protein has not been previously associated with renal cell cancer, high protein consumption has been related to development of other chronic renal conditions that may predispose an individual to this cancer.

IMPLICATION: These findings should prompt further study of dietary protein and its potential contribution to the origins of renal cell cancer.

PT JOURNAL ARTICLE
MJ Carcinoma Renal Cell /Etiology
MJ Dietary Proteins /Adverse Effects
MJ Kidney Neoplasms /Etiology
MI Adult
MI Aged
MI Carcinoma Renal Cell /Epidemiology
MI Case-Control Studies
MI Chi-Square Distribution
MI Diet /Adverse Effects
MI Female
MI Human
MI Kidney Neoplasms /Epidemiology
MI Male
MI Middle Age
MI Minnesota /Epidemiology
MI Registries
MI Age 19 and over

Item: 38

UI 94296855
AU Stucki G
AU Liang MH
TI Efficacy of rehabilitation interventions in rheumatic conditions.
SO Curr Opin Rheumatol 1994 Mar;6(2):153-8
JT CURRENT OPINION IN RHEUMATOLOGY
AD Brigham and Women's Hospital, Department of Rheumatology/Immunology, Boston MA 02115.
LA Eng
AB All industrialized nations are facing a crisis in **health care financing**. Rising expectations coupled with increasing specialization and technologic capacities have forced health care payers to examine their assumptions and to seek data on the outcomes of medical interventions. Clinical investigators who have been taught to use randomized controlled trials that evaluate efficacy under experimental conditions have been redirected toward studies that can help answer health policy questions. Such studies examine the effectiveness of interventions in more realistic settings on a richer array of patient-centered outcomes such as function and consider cost effectiveness and relative cost effectiveness. Rehabilitation interventions, which are by and large pragmatic, have never had a strong

scientific basis grounded in controlled trials, and this lack of evidence has put tremendous pressure on clinicians to justify their practices. In this article, we review the recent literature on effectiveness of rehabilitation interventions in rheumatic disorders.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Rehabilitation /Standards
MJ Rheumatic Diseases /Rehabilitation
MI Cost-Benefit Analysis
MI Health Care Costs
MI Health Policy
MI Human
MI Rheumatic Diseases /Economics

Item: 39

UI 94293426
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Jul 20;272(3):196
JT JAMA
AD **Health Care Financing** Administration.
LA Eng
PT JOURNAL ARTICLE
MJ Consumer Participation
MJ Health Services Accessibility
MJ Health Services Needs and Demand
MI United States
MI United States** Health Care Financing** Administration

Item: 40

UI 94292877
AU Burge D
TI A new day [news]
SO J Med Assoc Ga 1993 Nov;82(11):614
JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA
LA Eng
PT NEWS
MJ Peer Review /Legislation & Jurisprudence
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration
MI Georgia
MI Human
MI United States

Item: 41

UI 94288715
AU Warren JL
AU McBean AM
AU Hass SL

AU Babish JD
TI Hospitalizations with adverse events caused by digitalis therapy among elderly Medicare beneficiaries.
SO Arch Intern Med 1994 Jul 11;154(13):1482-7
JT ARCHIVES OF INTERNAL MEDICINE
AD Office of Research, **Health Care Financing** Administration, Baltimore, Md.
LA Eng
AB BACKGROUND: Digitalis products are among the agents most frequently prescribed to the elderly, yet previous studies have not provided age-, race-, and sex-specific rates of utilization of digitalis by this population. Estimates of the rate of hospitalization with an adverse reaction from digitalis therapy have varied considerably between systems relying on passive reports and those using active surveillance. METHODS: Medicare data from 1985 through 1991 and data from the 1987 National Medical Expenditure Survey were used to determine population-based estimates of the use of digitalis in elderly beneficiaries by age group, sex, and race. Hospitalization rates with an adverse event caused by digitalis therapy were calculated for those persons estimated to be using digitalis. Medicare data were used to identify the frequency of selected comorbidities among persons with an adverse event caused by digitalis therapy as well as the frequency of clinical manifestations associated with digitalis intoxication. RESULTS: Over 3 million Medicare beneficiaries were estimated to be using digitalis in 1987. A total of 202,011 hospitalizations with a coded adverse event caused by digitalis therapy were reported during the 7-year study period. Of persons estimated to be using digitalis, 8.53 per 1000 were hospitalized annually with an adverse event caused by digitalis therapy. Women, individuals with increasing age, and persons of black race, especially those with impaired renal function, were significantly ($P < .05$) more likely to experience hospitalization with an adverse event caused by digitalis therapy. CONCLUSION: This information may help identify categories of elderly patients who require more frequent monitoring to prevent adverse effects of digitalis therapy. Changes in the format of the hospital bill to include more diagnoses along with increased mandatory reporting of adverse drug events will improve the sensitivity of Medicare data for surveillance of adverse drug events.

PT JOURNAL ARTICLE
MJ Digitalis Glycosides /Adverse Effects
MJ Hospitalization /Statistics & Numerical Data
MI Aged
MI Aged 80 and over
MI Drug Utilization /Statistics & Numerical Data
MI Female
MI Human
MI Male
MI Medicare
MI Risk Factors
MI United States

MI Age 19 and over

Item: 42

UI 94285231

AU Eastman AB

AU Bishop GS

AU Walsh JC

AU Richardson JD

AU Rice CL

TI The economic status of trauma centers on the eve of health care reform.

SO J Trauma 1994 Jun;36(6):835-44; discussion 844-6

JT JOURNAL OF TRAUMA

AD Department of Surgery, Scripps Memorial Hospital, La Jolla, CA
92038-0028.

LA Eng

AB An in-depth understanding of the economic problems confronting trauma centers is essential for their continued development and to address impending changes of health care reform. A comprehensive financial and demographic survey was sent to 839 hospitals identified as potential trauma centers. A total of 313 surveys from 48 states were returned. Extensive information was collected in several areas including financial status (58% reported serious financial problems and 36% reported minor financial problems; 68% reported a financial loss), cost containment and management strategies, marketing, "halo" effect (53% reported positive effect), operational impacts, physician support (47% reported problems), malpractice (92% reported no special problem), role of auto insurance reimbursement, and access to rehabilitation. Detailed financial data of actual costs and reimbursements (95 respondents) were analyzed with the costing method used by the **Health Care Financing** Administration (HCFA). These data will allow us to develop better strategies to deal with the problems of uncompensated and underfunded trauma care and improve trauma center viability.

PT JOURNAL ARTICLE

MJ Financial Management Hospital /Statistics & Numerical Data

MJ Trauma Centers /Economics

MI Catchment Area Health /Statistics & Numerical Data

MI Cost Control

MI Health Care Reform

MI Health Facility Closure

MI Hospital Costs /Statistics & Numerical Data

MI Human

MI Insurance Hospitalization /Statistics & Numerical Data

MI Malpractice

MI Questionnaires

MI Support, Non-U.S. Gov't

MI Trauma Centers /Organization & Administration

MI Trauma Centers /Statistics & Numerical Data

MI United States

MI Urbanization

Item: 43

UI 94284669
AU Jacox AK
AU Carr DB
AU Payne R
TI Preface: policy issues related to clinical practice guidelines.
SO J Pain Symptom Manage 1994 Apr;9(3):143-5
JT JOURNAL OF PAIN AND SYMPTOM MANAGEMENT
AD Johns Hopkins University.
LA Eng
PT JOURNAL ARTICLE
MJ Palliative Treatment
MJ Practice Guidelines
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 44

UI 94284553
AU Grogan CM
AU Feldman RD
AU Nyman JA
AU Shapiro J
TI How will we use clinical guidelines? The experience of Medicare carriers.
SO J Health Polit Policy Law 1994 Spring;19(1):7-26
JT JOURNAL OF HEALTH POLITICS, POLICY AND LAW
AD Yale University.
LA Eng
AB While support for the development of clinical guidelines is widespread, there is little agreement about how they should be used. Because cost control is the force behind the medical effectiveness movement, the payers' preference, to link clinical guidelines to reimbursement, will likely prevail. We examine the utilization review programs of Medicare Part B carriers and the carriers' attempts to use clinical guidelines to determine medical necessity for the purpose of payment. We find that because the utilization review programs are driven by concerns about cost control, the carriers' actual review process relies on aggregate utilization and spending targets that have little to do with clinical guidelines. The carriers' medical review rhetoric--using the terms medically unnecessary and fraud and abuse as synonyms--also highlights their focus on cost control and the lack of concern about why services are used inappropriately.
PT JOURNAL ARTICLE
MJ Medicare /Standards
MJ Practice Guidelines
MJ Reimbursement Mechanisms
MI Attitude of Health Personnel
MI Cost Control
MI Cost Savings

MI Cost-Benefit Analysis
MI Fraud
MI Human
MI Insurance Carriers
MI Insurance Claim Reporting
MI Interprofessional Relations
MI Medicare Part B /Standards
MI Physicians Practice Patterns
MI Reimbursement Incentive
MI United States
MI United States** Health Care Financing** Administration
MI Utilization Review

Item: 45

UI 94284521
AU Morris JN
AU Fries BE
AU Mehr DR
AU Hawes C
AU Phillips C
AU Mor V
AU Lipsitz LA
TI MDS Cognitive Performance Scale.
SO J Gerontol 1994 Jul;49(4):M174-82
JT JOURNAL OF GERONTOLOGY
AD Hebrew Rehabilitation Center for Aged, Boston.
LA Eng
AB BACKGROUND. Chronic cognitive impairment is a major problem in U.S. nursing homes, yet traditional assessment systems in most facilities included only limited information on cognitive status. Following the Congressional mandate in the Omnibus Reconciliation Act of 1987 (OBRA '87), U.S. nursing homes now complete the Minimum Data Set (MDS), a standardized, comprehensive assessment of each resident's functional, medical, psychosocial, and cognitive status. We designed a Cognitive Performance Scale (CPS) that uses MDS data to assign residents into easily understood cognitive performance categories. METHODS. Information was drawn from three data sets, including two multistate data sets constructed for the **Health Care Financing** Administration. The prevalence and reliability of the MDS cognitive performance variables were established when assessed by trained nursing personnel. Five selected MDS items were combined to create the single, functionally meaningful seven-category hierarchical Cognitive Performance Scale. RESULTS. The CPS scale corresponded closely with scores generated by the Mini-Mental State Examination and the Test for Severe Impairment, nursing judgments of disorientation, and neurological diagnoses of Alzheimer's disease and other dementias. CONCLUSIONS. The new CPS provides a functional view of cognitive performance, using readily available MDS data. It should prove useful to clinicians and investigators using the MDS to determine a resident's cognitive assets.
PT JOURNAL ARTICLE

PT MULTICENTER STUDY
 MJ Cognition /Physiology
 MJ Cognition Disorders /Classification
 MJ Geriatric Assessment
 MI Activities of Daily Living
 MI Aged
 MI Aged 80 and over
 MI Alzheimers Disease /Classification
 MI Alzheimers Disease /Diagnosis
 MI Cognition Disorders /Diagnosis
 MI Coma /Physiopathology
 MI Communication
 MI Decision Making
 MI Dementia /Classification
 MI Dementia /Diagnosis
 MI Human
 MI Language
 MI Memory /Physiology
 MI Memory, Short-Term /Physiology
 MI Nursing Homes
 MI Orientation /Physiology
 MI Psychomotor Performance /Physiology
 MI Recall /Physiology
 MI Reproducibility of Results
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Age 19 and over

Item: 46

UI 94279187
 AU Weeks HS Jr
 TI The Health Care Quality Improvement Program: the WVMi returns to its founding mission.
 SO W V Med J 1994 Apr;90(4):138-9
 JT WEST VIRGINIA MEDICAL JOURNAL
 AD West Virginia Medical Institute, Charleston.
 LA Eng
 AB The **Health Care Financing** Administration (HCFA) has launched and ambitious new program for Peer Review Organizations (PROs) called the Health Care Quality Improvement Program (HCQIP). The goal of HCQIP is to improve the quality of care for all Medicare beneficiaries through cooperative interaction between PROs, providers, and physicians. The West Virginia Medical Institute, which serves as the PRO for West Virginia and Delaware, has recently begun to implement the changes required by HCQIP. This article explains the various approaches WVMi will use to achieve the health care improvement goals set forth by HCFA.
 PT JOURNAL ARTICLE
 MJ Medicare /Standards
 MJ Peer Review Health Care
 MJ Professional Review Organizations

MJ Quality of Health Care /Standards
MJ United States** Health Care Financing** Administration
MI Human
MI United States
MI West Virginia

Item: 47

UI 94277585
AU Harrop DE
TI National cooperative projects are new PRO direction: HCQIP. Health Care Quality Improvement Program.
SO Pa Med 1994 Apr;97(4):46
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Peer Review
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 48

UI 94277533
AU Lichter PR
TI Relating surgical volume to outcomes of cataract surgery [editorial; comment]
SO Ophthalmology 1994 Jun;101(6):977-8
JT OPHTHALMOLOGY
LA Eng
PT COMMENT
PT EDITORIAL
MJ Cataract Extraction /Statistics & Numerical Data
MJ Outcome Assessment Health Care
MJ Physicians Practice Patterns /Statistics & Numerical Data
MI Cataract /Physiopathology
MI Human
MI Patient Satisfaction
MI Treatment Outcome
MI United States
MI United States** Health Care Financing** Administration
MI Vision /Physiology
MI Visual Acuity /Physiology

Item: 49

UI 94277227
AU Lopez JI
TI IDPN: HCFA continues to reimburse, but will strengthen enforcement of regulations [letter]
SO Nephrol News Issues 1994 Jun;8(6):15, 62-3
JT NEPHROLOGY NEWS AND ISSUES

LA Eng
PT LETTER
MJ Food Formulated /Economics
MJ Insurance Health Reimbursement
MJ Parenteral Nutrition /Economics
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 50

UI 94277223
AU Neumann ME
TI HCFA asking for proposals to begin ESRD capitated payment model [news]
SO Nephrol News Issues 1994 Jun;8(6):11, 59
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT NEWS
MJ Capitation Fee
MJ Kidney Failure Chronic /Economics
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 51

UI 94277001
TI Medical-care expenditures attributable to cigarette smoking--United States, 1993.
SO MMWR Morb Mortal Wkly Rep 1994 Jul 8;43(26):469-72
JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT
LA Eng
AB Cigarette smoking is the most important preventable cause of morbidity and premature mortality in the United States; however, approximately 48 million persons aged > or = 18 years are smokers (1), and approximately 24 billion packages of cigarettes are purchased annually (2). Each year, approximately 400,000 deaths in the United States are attributed to cigarette smoking (3) and costs associated with morbidity attributable to smoking are substantial (4). To provide estimates for 1993 of smoking-attributable costs for selected categories of direct medical-care expenditures (i.e., prescription drugs, hospitalizations, physician care, home-health care, and nursing-home care), the University of California and CDC analyzed data from the 1987 National Medical Expenditures Survey (NMES-2) and from the **Health Care Financing** Administration (HCFA). This report summarizes the results of the analysis.
PT JOURNAL ARTICLE
MJ Health Care Costs
MJ Smoking /Economics
MI Adult
MI Aged
MI Health Care Costs /Statistics & Numerical Data

MI Human
MI Middle Age
MI Morbidity
MI Smoking /Epidemiology
MI United States
MI Age 19 and over

Item: 52

UI 94264720
AU Vladeck B
TI HCFA: changing with the times [interview by Renee Blankenau]
SO Hosp Health Netw 1994 Jun 20;68(12):52-3
JT HOSPITALS AND HEALTH NETWORKS
AD U.S. **Health Care Financing** Administration.
LA Eng
PT INTERVIEW
MJ United States** Health Care Financing** Administration /Organization & Administration
MI Health Care Reform /Organization & Administration
MI Medicaid /Organization & Administration
MI Medicare /Organization & Administration
MI Organizational Innovation
MI Organizational Objectives
MI United States

Item: 53

UI 94260655
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Jun 22-29;271(24):1896
JT JAMA
AD **Health Care Financing** Administration.
LA Eng
PT JOURNAL ARTICLE
MJ Health Care Reform
MJ Quality of Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 54

UI 94256454
AU Sonnenberg A
AU Jacobsen SJ
AU Wasserman IH
TI Periodicity of hospital admissions for inflammatory bowel disease.
SO Am J Gastroenterol 1994 Jun;89(6):847-51
JT AMERICAN JOURNAL OF GASTROENTEROLOGY
AD Department of Veterans Affairs Medical Center, Milwaukee, Wisconsin.
LA Eng
AB OBJECTIVES: It has been speculated that exacerbations of inflammatory

bowel disease are influenced by seasonal variations. METHODS: This hypothesis was tested in a large data base of the **Health Care Financing** Administration (HCFA), consisting of all hospitalized US Medicare beneficiaries from four consecutive years. RESULTS: The total of hospital admissions (for all diagnoses) was characterized by a marked seasonal variation occurring similarly in each consecutive year. It was high during winter and low during summer. Peak and trough of admission rate varied by 10%. In striking contrast to this general pattern, both Crohn's disease and ulcerative colitis showed an annual pattern of variability without any clear-cut seasonality. However, the time trends of both diseases showed a striking parallelism concerning their short-term changes (affecting 1-3 consecutive months) and long-term changes (affecting 4-8 consecutive months). The parallelism of the temporal changes affected different age and sex groups alike. CONCLUSIONS: The parallel monthly variations suggest that exacerbations in the activity of inflammatory bowel disease may be modulated by exogenous factors, and that Crohn's disease and ulcerative colitis may be influenced by identical modulators of disease activity.

PT JOURNAL ARTICLE
MJ Colitis Ulcerative /Therapy
MJ Crohn Disease /Therapy
MJ Hospitalization /Statistics & Numerical Data
MJ Seasons
MI Aged
MI Colitis Ulcerative /Pathology
MI Crohn Disease /Pathology
MI Female
MI Human
MI Male
MI Age 19 and over

Item: 55

UI 94255065
AU Barrett FJ
TI Health care problems and Nebraska solutions.
SO Nebr Med J 1994 Mar;79(3):64-6
JT NEBRASKA MEDICAL JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Health Care Reform
MI Health Care Costs
MI Health Care Reform /Organization & Administration
MI Health Services Accessibility
MI Nebraska
MI United States
MI United States** Health Care Financing** Administration

Item: 56

UI 94254168
AU Fontham ET

AU Correa P
AU Reynolds P
AU Wu-Williams A
AU Buffler PA
AU Greenberg RS
AU Chen VW
AU Alterman T
AU Boyd P
AU Austin DF
AU et al
TI Environmental tobacco smoke and lung cancer in nonsmoking women. A multicenter study.
SO JAMA 1994 Jun 8;271(22):1752-9
JT JAMA
AD Department of Pathology, Louisiana State University Medical Center, New Orleans 70112-1393.
LA Eng
AB OBJECTIVE--To determine the relative risk (RR) of lung cancer in lifetime never smokers associated with environmental tobacco smoke (ETS) exposure. DESIGN--Multicenter population-based case-control study. SETTING--Five metropolitan areas in the United States: Atlanta, Ga, Houston, Tex, Los Angeles, Calif, New Orleans, La, and the San Francisco Bay Area, Calif. PATIENTS OR OTHER PARTICIPANTS--Female lifetime never smokers: 653 cases with histologically confirmed lung cancer and 1253 controls selected by random digit dialing and random sampling from the **Health Care Financing** Administration files for women aged 65 years and older. MAIN OUTCOME MEASURE--The RR of lung cancer, estimated by adjusted odds ratio (OR) with 95% confidence interval (CI), associated with ETS exposure. RESULTS--Tobacco use by spouse(s) was associated with a 30% excess risk of lung cancer: all types of primary lung carcinoma (adjusted OR = 1.29; $P < .05$), pulmonary adenocarcinoma (adjusted OR = 1.28; $P < .05$), and other primary carcinomas of the lung (adjusted OR = 1.37; $P = .18$). An increasing RR of lung cancer was observed with increasing pack-years of spousal ETS exposure (trend $P = .03$), such that an 80% excess risk of lung cancer was observed for subjects with 80 or more pack-years of exposure from a spouse (adjusted OR = 1.79; 95% CI = 0.99 to 3.25). The excess risk of lung cancer among women ever exposed to ETS during adult life in the household was 24%; in the workplace, 39%; and in social settings, 50%. When these sources were considered jointly, an increasing risk of lung cancer with increasing duration of exposure was observed (trend $P = .001$). At the highest level of exposure, there was a 75% increased risk. No significant association was found between exposure during childhood to household ETS exposure from mother, father, or other household members; however, women who were exposed during childhood had higher RRs associated with adult-life ETS exposures than women with no childhood exposure. At the highest level of adult smoke-years of exposure, the ORs for women with and without childhood exposures were 3.25 (95% CI, 2.42 to 7.46) and 1.77 (95% CI, 0.98 to 3.19), respectively. CONCLUSION--Exposure to ETS during adult life increases risk of lung cancer in lifetime nonsmokers.

PT JOURNAL ARTICLE
 PT MULTICENTER STUDY
 MJ Lung Neoplasms /Epidemiology
 MJ Tobacco Smoke Pollution /Statistics & Numerical Data
 MI Aged
 MI Case-Control Studies
 MI Confidence Intervals
 MI Cotinine /Urine
 MI Creatinine /Urine
 MI Data Collection
 MI Female
 MI Human
 MI Lung Neoplasms /Etiology
 MI Lung Neoplasms /Urine
 MI Middle Age
 MI Odds Ratio
 MI Risk
 MI Support, Non-U.S. Gov't
 MI Support U S Govt P H S
 MI Tobacco Smoke Pollution /Adverse Effects
 MI Age 19 and over

Item: 57

UI 94251247
 AU Cleary A
 TI A better place to be. Integrated, capitated care gives frail elderly a choice over nursing homes.
 SO Hosp Health Netw 1994 Jun 5;68(11):58, 60
 JT HOSPITALS AND HEALTH NETWORKS
 LA Eng
 PT JOURNAL ARTICLE
 MJ Comprehensive Health Care /Organization & Administration
 MJ Health Services for the Aged /Organization & Administration
 MJ Managed Care Programs /Organization & Administration
 MI Aged
 MI Capitation Fee
 MI Comprehensive Health Care /Economics
 MI Consumer Satisfaction
 MI Frail Elderly
 MI Health Services for the Aged /Economics
 MI Human
 MI Middle Age
 MI Models Organizational
 MI Patient Care Team
 MI Pilot Projects
 MI United States
 MI United States** Health Care Financing** Administration
 MI Age 19 and over

Item: 58

UI 94249834
AU Altman LK
TI Bringing the news to the public: the role of the media.
SO Ann N Y Acad Sci 1993 Dec 31;703:200-8; discussion 208-9
JT ANNALS OF THE NEW YORK ACADEMY OF SCIENCES
AD New York Times, New York 10036.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Health Services Research
MJ Information Services
MJ Mass Media
MJ Public Opinion
MJ Quality Assurance Health Care
MI Human
MI Outcome Assessment Health Care
MI Peer Review Research
MI Periodicals
MI United States
MI United States** Health Care Financing** Administration

Item: 59

UI 94248985
AU Waterman RA
AU Bonham ML
TI Case study: the integration of a medical foundation and an independent practice association.
SO Top Health Care Financ 1994 Spring;20(3):80-5
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB This chapter is a case study of a nonprofit medical foundation and an independent practice association. It discusses the different cultures and statutory, governance, and other issues, including the development of the bylaws and managed care agreement.
PT JOURNAL ARTICLE
MJ Foundations /Organization & Administration
MJ Hospital-Physician Joint Ventures /Organization & Administration
MJ Independent Practice Associations /Organization & Administration
MJ Models Organizational
MI California
MI Constitution and Bylaws
MI Organizations Nonprofit /Organization & Administration

Item: 60

UI 94248984
AU Covert DF
TI Mercy Medical Foundation of Sacramento: a case study.
SO Top Health Care Financ 1994 Spring;20(3):70-9
JT TOPICS IN **HEALTH CARE FINANCING**

AD Catholic Healthcare West, San Francisco, CA.
 LA Eng
 AB This is a case study of Mercy Medical Foundation of Sacramento and its affiliation with Medical Clinic of Sacramento, Inc. It provides background on the development of the foundation, factors leading to the affiliation, evaluation of models, and analysis of how the organizational structure was developed. Finally, it discusses how the model is operating and the implications for the parent corporation.

PT JOURNAL ARTICLE
 MJ Foundations /Organization & Administration
 MJ Hospital-Physician Joint Ventures /Organization & Administration
 MJ Models Organizational
 MI California
 MI Catholicism
 MI Decision Making Organizational
 MI Hospitals Religious /Organization & Administration
 MI Multi-Institutional Systems /Organization & Administration
 MI Organizational Affiliation
 MI Planning Techniques

Item: 61

UI 94248983
 AU Owens JF
 TI Miscellaneous legal issues affecting integrated delivery systems, foundations, and management services organizations.
 SO Top Health Care Financ 1994 Spring;20(3):61-9
 JT TOPICS IN **HEALTH CARE FINANCING**
 LA Eng
 AB This chapter addresses some of those legal issues that uniquely affect the formation or operations of an integrated delivery system (IDS), a foundation, or a management services organization (MSO), but which are not discussed in any other chapters. This chapter gives special insight and guidance on issues such as licensing, credentialing and peer review, employee benefit plans, prohibitions against physician self-referrals, and the rules on disclosure of ownership and control.

PT JOURNAL ARTICLE
 MJ Foundations /Legislation & Jurisprudence
 MJ Hospital-Physician Joint Ventures /Legislation & Jurisprudence
 MI Conflict of Interest /Legislation & Jurisprudence
 MI Contract Services /Legislation & Jurisprudence
 MI Contract Services /Standards
 MI Credentialing /Economics
 MI Credentialing /Legislation & Jurisprudence
 MI Foundations /Organization & Administration
 MI Foundations /Standards
 MI Hospital-Physician Joint Ventures /Organization & Administration
 MI Hospital-Physician Joint Ventures /Standards
 MI Licensure /Legislation & Jurisprudence
 MI Ownership /Legislation & Jurisprudence
 MI Peer Review /Legislation & Jurisprudence

MI Personnel Selection /Legislation & Jurisprudence
MI Referral and Consultation /Legislation & Jurisprudence
MI United States

Item: 62

UI 94248982
AU DeMuro PR
AU Owens JF
TI Special Medicare reimbursement and fraud and abuse considerations for management services organizations, medical foundations, and integrated delivery systems.
SO Top Health Care Financ 1994 Spring;20(3):54-60
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB This chapter discusses certain Medicare reimbursement and fraud and abuse considerations for management services organizations (MSOs), medical foundations, and integrated delivery systems. It stresses the necessity of a business plan, the sources of capitalization that might be used in creating an integrated delivery system, and their effect on Medicare reimbursement. It also discusses related party principles and considerations and the Medicare "incident to" regulations. Furthermore, it discusses the application of certain Medicare safe harbor regulations on MSOs' structures and services, and those of medical foundations and integrated delivery systems.
PT JOURNAL ARTICLE
MJ Capital Financing /Legislation & Jurisprudence
MJ Fraud /Legislation & Jurisprudence
MJ Health Services Misuse /Legislation & Jurisprudence
MJ Hospital-Physician Joint Ventures /Economics
MJ Medicare /Legislation & Jurisprudence
MI Contract Services /Economics
MI Contract Services /Legislation & Jurisprudence
MI Depreciation /Legislation & Jurisprudence
MI Foundations /Economics
MI Foundations /Legislation & Jurisprudence
MI Fraud /Economics
MI Health Services Misuse /Economics
MI Hospital-Physician Joint Ventures /Legislation & Jurisprudence
MI Investments /Legislation & Jurisprudence
MI Medicare /Economics
MI Planning Techniques
MI Referral and Consultation /Economics
MI Referral and Consultation /Legislation & Jurisprudence
MI Reimbursement Mechanisms /Economics
MI Reimbursement Mechanisms /Legislation & Jurisprudence
MI United States

Item: 63

UI 94248981
AU Aseltyne WJ

AU Peters GR
TI Tax exemption and integrated delivery systems.
SO Top Health Care Financ 1994 Spring;20(3):46-53
JT TOPICS IN **HEALTH CARE FINANCING**
AD California Pacific Medical Center, San Francisco.
LA Eng
AB This chapter discusses tax exemption of integrated delivery systems, including the requirements for exemption, the charitable purposes test, the private inurement and private benefit tests, and an application to integrated delivery systems. It also discusses the structure of the Friendly Hills and Facey Nonprofit Medical Foundations, including the analysis of the Internal Revenue Service. Finally, it discusses the process for obtaining tax exemption.

PT JOURNAL ARTICLE
MJ Charities /Legislation & Jurisprudence
MJ Hospital-Physician Joint Ventures /Economics
MJ Taxes /Legislation & Jurisprudence
MI Charities /Economics
MI Community-Institutional Relations /Economics
MI Financial Management /Legislation & Jurisprudence
MI Foundations /Economics
MI Foundations /Legislation & Jurisprudence
MI Hospital-Physician Joint Ventures /Legislation & Jurisprudence
MI Hospital-Physician Joint Ventures /Organization & Administration
MI Organizations Nonprofit /Economics
MI Organizations Nonprofit /Legislation & Jurisprudence
MI United States

Item: 64

UI 94248980
AU Rosch JT
AU Tada H
TI The antitrust risks of management services organizations, medical foundations, and integrated delivery systems.
SO Top Health Care Financ 1994 Spring;20(3):37-45
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB This chapter focuses on the antitrust implications of forming a fully integrated delivery system. The danger lies in a challenge by the federal government or private parties, if the proposed system threatens the development of competing systems or excludes individuals or entities. By explaining the risks facing less integrated arrangements involving medical foundations and management services organizations, why forming an integrated system may resolve some of those risks, and the advantages and disadvantages of other options, this chapter also points out one of the primary benefits of forming an integrated system: reducing the antitrust risks. Finally, general suggestions are posed to minimize the antitrust risks when planning and developing any collaborative effort among providers.

PT JOURNAL ARTICLE

MJ Antitrust Laws
MJ Foundations /Legislation & Jurisprudence
MJ Hospital-Physician Joint Ventures /Legislation & Jurisprudence
MI Contract Services /Legislation & Jurisprudence
MI Economic Competition /Organization & Administration
MI Fees and Charges
MI Foundations /Economics
MI Group Purchasing /Legislation & Jurisprudence
MI Health Facility Merger /Legislation & Jurisprudence
MI Hospital-Physician Joint Ventures /Economics
MI Risk Factors
MI United States
MI United States Federal Trade Commission

Item: 65

UI 94248979
AU Pierce E
TI Financing of integrated delivery systems.
SO Top Health Care Financ 1994 Spring;20(3):28-36
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB This chapter addresses the financing of integrated delivery systems. It discusses the assessment of financing needs and taxable financing options, including standard commercial loans, lines of credit, commercial paper, and taxable bonds. The chapter also addresses tax-exempt financing, including tax-exempt bonds, and eligibility for tax-exempt financing.
PT JOURNAL ARTICLE
MJ Capital Financing /Methods
MJ Hospital-Physician Joint Ventures /Economics
MI Capital Financing /Organization & Administration
MI Hospital-Physician Joint Ventures /Organization & Administration
MI Organizations Nonprofit /Economics
MI Organizations Nonprofit /Organization & Administration
MI Ownership /Economics
MI Taxes /Legislation & Jurisprudence
MI United States

Item: 66

UI 94248978
AU DeMuro PR
TI Management services organizations.
SO Top Health Care Financ 1994 Spring;20(3):19-27
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB This chapter defines a management services organization (MSO), and discusses the goals and objectives of hospitals and physicians in creating an MSO and the advantages and disadvantages of an MSO. It stresses the necessity of developing a business plan in the formation of an MSO and discusses organizational forms and MSO activities, such as

managed care contracting, billing, information systems, utilization management and review, the provision of supplies, medical office space, equipment, staff, and turnkey arrangements. In addition, it discusses the structuring of MSO fees and a number of organizational structures for MSOs and legal issues affecting them.

PT JOURNAL ARTICLE
MJ Contract Services /Organization & Administration
MJ Hospital-Physician Joint Ventures /Organization & Administration
MJ Models Organizational
MI Contract Services /Economics
MI Contract Services /Legislation & Jurisprudence
MI Cost Savings
MI Evaluation Studies
MI Fees and Charges
MI Financial Management
MI Hospital-Physician Joint Ventures /Economics
MI Hospital-Physician Joint Ventures /Legislation & Jurisprudence
MI Organizational Objectives
MI Ownership
MI Planning Techniques
MI United States

Item: 67

UI 94248977
AU Waterman RA
TI Nonprofit medical care foundations.
SO Top Health Care Financ 1994 Spring;20(3):13-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Foundations /Organization & Administration
MJ Hospital-Physician Joint Ventures /Organization & Administration
MJ Organizations Nonprofit /Organization & Administration
MI Cost-Benefit Analysis
MI Decision Making Organizational
MI Financial Audit
MI Financial Management
MI Foundations /Economics
MI Hospital-Physician Joint Ventures /Economics
MI Organizations Nonprofit /Economics
MI Planning Techniques
MI Taxes
MI United States

Item: 68

UI 94248976
AU Peters GR
TI Organizational and business issues affecting integrated delivery systems.
SO Top Health Care Financ 1994 Spring;20(3):1-12

JT TOPICS IN **HEALTH CARE FINANCING**
 LA Eng
 AB This chapter discusses the nature of an integrated system, the reasons for developing an integrated delivery system, and various organizational structures that might be used. The chapter then identifies several of the critical business issues affecting the development of an integrated system.
 PT JOURNAL ARTICLE
 MJ Hospital-Physician Joint Ventures /Organization & Administration
 MJ Models Organizational
 MI Financial Management
 MI Foundations /Organization & Administration
 MI Governing Board
 MI Hospital-Physician Joint Ventures /Economics
 MI Organizational Affiliation
 MI Organizational Objectives
 MI Ownership
 MI Physician Incentive Plans
 MI United States

Item: 69

UI 94245076
 AU Aaron HJ
 TI Sowing the seeds of reform in 1994 [see comments]
 SO Health Aff (Millwood) 1994 Spring;13(1):57-68
 JT HEALTH AFFAIRS
 AD Brookings Institution, Washington, DC.
 LA Eng
 AB The prospects for reforming **health care financing** revolve around five questions: (1) Will Congress mandate universal coverage? (2) Will Congress require employers to pay most of the cost of employee coverage? (3) Will Congress authorize effective limits on health care spending? (4) What role should regional health alliances play in the reformed system? (5) How much change in health insurance arrangements can be implemented over the remainder of this decade? The author argues that the prospects are slight for quickly implementing reforms as sweeping as those that President Clinton has proposed. But prospects are good for beginning a process that will lead to universal coverage and effective cost controls. The key is the creation of regional alliances.
 PT JOURNAL ARTICLE
 MJ Health Care Costs /Legislation & Jurisprudence
 MJ Health Care Reform /Economics
 MJ National Health Insurance United States /Legislation & Jurisprudence
 MI Cost Savings /Legislation & Jurisprudence
 MI Financing Government /Legislation & Jurisprudence
 MI Health Care Reform /Legislation & Jurisprudence
 MI Human
 MI United States

Item: 70

UI 94244381
AU Valente PT
TI Government mandated cytology proficiency testing: time for reality testing [editorial]
SO Diagn Cytopathol 1994;10(2):105-6
JT DIAGNOSTIC CYTOPATHOLOGY
LA Eng
PT EDITORIAL
MJ Cytological Techniques /Standards
MI Laboratories /Standards
MI Quality Assurance Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 71

UI 94239353
AU Land G
AU Gibson B
AU Schramm W
TI Black-white disparities in health status in Missouri.
SO Mo Med 1994 Feb;91(2):66-71
JT MISSOURI MEDICINE
AD Missouri State Center for Health Statistics, Missouri Department of Health.
LA Eng
AB Historically, the overall health status as measured by life expectancy and infant mortality of Black and White Missourians has been significantly different. We analyzed birth, death, child death and communicable disease data to determine if Blacks have narrowed the gap in health status. The overall health status of Black and White Missourians improved over the last two decades. However, the gap in health status still remains, and in some cases, has gotten worse. This occurred despite the increase in **health care financing** through Medicare and Medicaid. To narrow the gap in health status between Blacks and Whites requires addressing prevention and the social problems along with the medical problems.
PT JOURNAL ARTICLE
MJ Blacks
MJ Health Status
MJ Whites
MI Adolescence
MI Blacks /Statistics & Numerical Data
MI Communicable Diseases /Epidemiology
MI Comparative Study
MI Female
MI Human
MI Infant
MI Infant Mortality
MI Life Expectancy
MI Marital Status /Statistics & Numerical Data

MI Missouri /Epidemiology
MI Poverty /Statistics & Numerical Data
MI Pregnancy
MI Pregnancy in Adolescence /Statistics & Numerical Data
MI Prenatal Care /Statistics & Numerical Data
MI Risk Factors
MI Whites /Statistics & Numerical Data
MI Wounds and Injuries /Mortality
MI Age 18 and under

Item: 72

UI 94238818
AU Evens RG
TI Radiology.
SO JAMA 1994 Jun 1;271(21):1714-5
JT JAMA
AD Washington University School of Medicine, St Louis, Mo.
LA Eng
AB Potential cost-effective advantages of interventional radiology may lie in the performance of more common (and high-volume) procedures. The Food and Drug Administration has recommended that a mammography facility meet defined quality standards before payment by the **Health Care Financing** Administration.
PT JOURNAL ARTICLE
MJ Radiology /Trends
MI United States

Item: 73

UI 94238743
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 May 25;271(20):1566
JT JAMA
AD **Health Care Financing** Administration.
LA Eng
PT JOURNAL ARTICLE
MJ Home Care Services
MJ Medicare
MI Home Care Services /Economics
MI Home Care Services /Standards
MI Medicare /Economics
MI Medicare /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 74

UI 94232360
AU Paganini EP
TI Moving the monthly capitated payment under the RBRVS: will the equivalent reflect the work?

SO Nephrol News Issues 1994 Apr;8(4):12-5
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Capitation Fee
MJ Hemodialysis /Economics
MJ Relative Value Scales
MI Human
MI Public Policy
MI United States
MI United States** Health Care Financing** Administration

Item: 75

UI 94231669
AU Miller MG
AU Miller LS
AU Fireman B
AU Black SB
TI Variation in practice for discretionary admissions. Impact on estimates of quality of hospital care.
SO JAMA 1994 May 18;271(19):1493-8
JT JAMA
AD Department of Quality and Utilization, Kaiser Permanente Medical Care Program, Oakland, CA 94612.
LA Eng
AB OBJECTIVE--To demonstrate theoretically and empirically the existence of systematic bias in commonly reported standardized hospital mortality ratios when variation in hospital admission practice is not adjusted for in the analysis. The underlying analytic model used in hospital mortality analyses is specified and the confounding effect of selection bias arising from variation in admission practice is shown. DATA SOURCES--An empirical example is presented using state-level data from the **Health Care Financing** Administration's Medicare Hospital Information Report for 1988 to 1990. STUDY SELECTION--The Medicare Hospital Information data are used to demonstrate the effects of the bias because they contain population-based admission rates and mortality rates. DATA SYNTHESIS--Selection bias arising from variation in admission practice causes the expected mortality rate to be overestimated for all hospitals, but especially for hospitals with more lenient admission practices. Using the Medicare Hospital Information Report, the resulting standardized hospital mortality ratios are shown to be significantly inversely correlated with higher relative risks of hospitalization ($P < .01$). CONCLUSION--Standardized hospital mortality ratios based on analyses that do not account for variation in admission practice among hospitals are biased. Variation in admission practice will cause any outcome measure based solely on hospitalized patients to be similarly biased. Correction for selection bias is required to produce valid measures of hospital quality.
PT JOURNAL ARTICLE
MJ Hospital Mortality

MJ Outcome Assessment Health Care /Standards
MJ Patient Admission /Statistics & Numerical Data
MJ Physicians Practice Patterns /Statistics & Numerical Data
MI Bias Epidemiology
MI Fees Medical
MI Health Maintenance Organizations /Statistics & Numerical Data
MI Human
MI Medicare
MI Models Statistical
MI Outcome Assessment Health Care /Statistics & Numerical Data
MI Patient Admission /Standards
MI United States /Epidemiology
MI United States** Health Care Financing** Administration

Item: 76

UI 94229193
AU Lauderdale DS
AU Furner SE
AU Miles TP
AU Goldberg J
TI Epidemiologic uses of Medicare data.
SO Epidemiol Rev 1993;15(2):319-27
JT EPIDEMIOLOGIC REVIEWS
AD Division of Epidemiology-Biostatistics, School of Public Health,
University of Illinois-Chicago 60612.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, MULTICASE
MJ Epidemiologic Methods
MJ Health Services Research /Statistics & Numerical Data
MJ Medicare /Statistics & Numerical Data
MI Aged
MI Female
MI Human
MI Male
MI Medicare /Utilization
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S
MI United States
MI United States** Health Care Financing** Administration
MI Age 19 and over

Item: 77

UI 94223782
AU Baker JD
TI The vascular laboratory: regulations and other challenges.
SO J Vasc Surg 1994 May;19(5):901-4
JT JOURNAL OF VASCULAR SURGERY
AD Vascular Surgery Sections, UCLA School of Medicine.

LA Eng
PT JOURNAL ARTICLE
MJ Laboratories Hospital /Economics
MJ Laboratories Hospital /Legislation & Jurisprudence
MJ Vascular Diseases /Diagnosis
MI Health Policy /Economics
MI Human
MI Referral and Consultation /Legislation & Jurisprudence
MI Reimbursement Mechanisms /Economics
MI United States
MI United States** Health Care Financing** Administration
MI Vascular Diseases /Economics

Item: 78

UI 94223284
AU Caldwell JR
TI RBRVS revisited [editorial]
SO J Fla Med Assoc 1994 Feb;81(2):89-90
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
LA Eng
PT EDITORIAL
MJ Relative Value Scales
MI Family Practice /Economics
MI Medicare /Economics
MI Primary Health Care /Economics
MI Reimbursement Mechanisms
MI United States
MI United States** Health Care Financing** Administration /Economics

Item: 79

UI 94222502
AU Iezzoni LI
AU Daley J
AU Heeren T
AU Foley SM
AU Hughes JS
AU Fisher ES
AU Duncan CC
AU Coffman GA
TI Using administrative data to screen hospitals for high complication rates.
SO Inquiry 1994 Spring;31(1):40-55
JT INQUIRY
AD Department of Medicine, Harvard Medical School, Boston, MA.
LA Eng
AB Medicare's Peer Review Organizations (PROs) now are required to work with hospitals to improve patient outcomes. Which hospitals should be targeted? We used 1988 California discharge data to identify hospitals with higher-than-expected rates of complications in six adult, medical-surgical patient populations. Relative hospital complication

rates generally were correlated across clinical areas, although correlations were lower between medical and surgical case types. Higher relative rates of complications were associated with larger size, major teaching facilities, and provision of open heart surgery, as well as with coding more diagnoses per case. Complication rates generally were not related significantly to hospital mortality rates as calculated by the **Health Care Financing** Administration. Different hospitals may be chosen for quality review depending on the method used to identify poor outcomes.

PT JOURNAL ARTICLE
MJ Hospitals /Standards
MJ Iatrogenic Disease /Epidemiology
MJ Outcome and Process Assessment Health Care /Statistics & Numerical Data
MJ Professional Review Organizations
MI Aged
MI California /Epidemiology
MI Chronic Disease
MI Data Interpretation Statistical
MI Diagnosis-Related Groups
MI Female
MI Health Services Research
MI Hospital Bed Capacity
MI Hospital Mortality
MI Human
MI Logistic Models
MI Male
MI Medicare
MI Middle Age
MI Ownership
MI Patient Discharge /Statistics & Numerical Data
MI Postoperative Complications /Epidemiology
MI Risk Factors
MI Support U S Govt P H S
MI United States
MI United States** Health Care Financing** Administration
MI Age 19 and over

Item: 80

UI 94222498
AU Zarkin GA
AU Garfinkel SA
TI The relationship between employer health insurance characteristics and the provision of employee assistance programs.
SO Inquiry 1994 Spring;31(1):102-14
JT INQUIRY
AD Research Triangle Institute, Research Triangle Park, NC 27709.
LA Eng
AB Workplace drug and alcohol abuse imposes substantial costs on employers. In response, employers have implemented a variety of programs to decrease substance abuse in the workplace, including drug testing,

health and wellness programs, and employee assistance programs (EAPs). This paper focuses on the relationship between enterprises' organizational and health insurance characteristics and the firms' decisions to provide EAPs. Using data from the 1989 Survey of Health Insurance Plans (SHIP), sponsored by the **Health Care Financing** Administration (HCFA), we estimated the prevalence of EAPs by selected organizational and health insurance characteristics for those firms that offer health insurance to their workers. In addition, we estimated logistic models of the enterprises' decisions to provide EAPs as functions of the extent of state substance abuse and mental health insurance mandates, state-level demographic variables, and organizational and health insurance characteristics. Our results suggest that state mandates and demographic variables, as well as organizational and health insurance characteristics, are important explanatory variables of enterprises' decisions to provide EAPs.

PT JOURNAL ARTICLE
MJ Health Benefit Plans Employee /Organization & Administration
MJ Health Promotion /Organization & Administration
MJ Occupational Health Services /Organization & Administration
MJ Substance Abuse /Prevention & Control
MI Data Collection
MI Decision Making Organizational
MI Health Services Research
MI Human
MI Logistic Models
MI Motivation
MI Substance Abuse /Diagnosis
MI Substance Abuse /Economics
MI Substance Abuse Detection
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S
MI United States
MI United States** Health Care Financing** Administration

Item: 81

UI 94221542
AU McBean AM
AU Warren JL
AU Babish JD
TI Measuring the incidence of cancer in elderly Americans using Medicare claims data.
SO Cancer 1994 May 1;73(9):2417-25
JT CANCER
AD Epidemiology Branch, **Health Care Financing** Administration, Baltimore, Maryland 21207.
LA Eng
AB BACKGROUND. The Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute is the most frequently used and best estimate of the incidence of cancer in the United States. Although synthetic estimates based on the SEER information can be used to plan

cancer prevention and intervention programs, the evaluation of these action programs and the monitoring of cancer incidence in states or other geographic areas requires information on the population for whom the program is directed. METHODS. The age-adjusted incidence of six cancers among persons 65 years of age and older for 1986-1987 living in the five states participating in the SEER program was compared with the incidence derived from hospitalization records contained in the **Health Care Financing** Administration's (HCFA) administrative data files. Age-adjusted incidence rates for 1990 developed from HCFA data for persons living in the nine SEER program areas were contrasted with the incidence rates for persons living in the rest of the United States and were developed for each of the 50 states and the District of Columbia. RESULTS. The comparison of the SEER and HCFA overall age-adjusted cancer incidence rates in the elderly for 1986-1987 showed that for four of the six cancers (breast, colon, lung, and corpus uteri) the rates differed by 5% or less. The HCFA derived rates were 6.37% and 7.65% greater than the SEER rates for prostate and esophagus cancer, respectively. The incidence of cancer between 1986 and 1990 was neither uniformly higher nor lower among elderly SEER program area residents compared with residents of the rest of the country. Incidence rates varied greatly among states for each of the cancers. CONCLUSIONS. HCFA administrative data can be used by states or other geographic units to monitor the incidence of cancer in the elderly as well as to plan and evaluate cancer prevention and intervention programs.

PT JOURNAL ARTICLE
 MJ Medicare /Statistics & Numerical Data
 MJ Neoplasms /Epidemiology C4 C4.0
 MI Age Factors
 MI Aged
 MI Breast Neoplasms /Epidemiology
 MI Colonic Neoplasms /Epidemiology
 MI Comparative Study
 MI Esophageal Neoplasms /Epidemiology
 MI Female
 MI Health Maintenance Organizations /Statistics & Numerical Data
 MI Hospitalization /Statistics & Numerical Data
 MI Human
 MI Incidence
 MI Lung Neoplasms /Epidemiology
 MI Male
 MI Prostatic Neoplasms /Epidemiology
 MI United States /Epidemiology
 MI United States** Health Care Financing** Administration /Statistics & Numerical Data
 MI Uterine Neoplasms /Epidemiology
 MI Age 19 and over

Item: 82

UI 94221269

AU Price TR

AU Psaty B
 AU O'Leary D
 AU Burke G
 AU Gardin J
 TI Assessment of cerebrovascular disease in the Cardiovascular Health Study.
 SO Ann Epidemiol 1993 Sep;3(5):504-7
 JT ANNALS OF EPIDEMIOLOGY
 AD Department of Neurology, University of Maryland Medical Center, Baltimore 21201.
 LA Eng
 AB The Cardiovascular Health Study (CHS) is a longitudinal population-based study of coronary heart disease and stroke in men and women 65 years and older. The initial CHS cohort consisted of 5201 men and women recruited from a random sample of the **Health Care Financing** Administration (HCFA) Medicare eligibility lists in four communities in the United States. Extensive historical, physical, and laboratory evaluations were performed at the baseline examination in 1989 to 1990 to identify risk factors and subclinical disease. Periodic contacts are carried out to ascertain and verify incident cardiac and stroke events and their sequelae. Since only a short time has passed since entry of all the patients into the study, data are not available on time trends in the mortality rate of stroke, but we expect to contribute in this area in the years ahead. This article then is a description of the CHS, of methods of assessing stroke in the CHS cohort, and of prevalence of stroke and transient ischemic attacks at the initial examination.
 PT JOURNAL ARTICLE
 MJ Cerebrovascular Disorders /Complications
 MJ Coronary Disease /Complications
 MI Aged
 MI Aged 80 and over
 MI Cerebral Ischemia Transient /Complications
 MI Cerebral Ischemia Transient /Epidemiology
 MI Cerebrovascular Disorders /Diagnosis
 MI Cerebrovascular Disorders /Epidemiology
 MI Cohort Studies
 MI Female
 MI Human
 MI Longitudinal Studies
 MI Male
 MI Prevalence
 MI Age 19 and over

Item: 83

UI 94221175
 AU Blankenau R
 TI Cutting fat or bone? Hospitals outline effects of proposed Medicare reductions [news]
 SO Hosp Health Netw 1994 May 5;68(9):12, 14
 JT HOSPITALS AND HEALTH NETWORKS

LA Eng
PT NEWS
MJ Economics Hospital /Trends
MJ Health Care Reform /Economics
MJ Medicare /Legislation & Jurisprudence
MI American Hospital Association
MI Data Collection
MI Economics Hospital /Statistics & Numerical Data
MI Health Care Reform /Legislation & Jurisprudence
MI Hospital Costs /Statistics & Numerical Data
MI United States
MI United States** Health Care Financing** Administration

Item: 84

UI 94211413
AU Tallon RW
TI ME changes: effects on patient care delivery.
SO Nurs Manage 1994 Apr;25(4):47-8
JT NURSING MANAGEMENT
LA Eng
AB The **Health Care Financing** Administration consolidated Durable Medical Equipment (DME) processing into four regional DME carriers for Medicare. These four DMERCs Durable Medical Equipment Regional Carriers (DMERCs) will process claims more accurately, reduce variations in coverage decisions, and decrease the opportunities for fraud. Taken in its entirety, the DME regionalization process is a major step toward achieving nationally consistent expectations for quality of care.
PT JOURNAL ARTICLE
MJ Delivery of Health Care /Trends
MJ Durable Medical Equipment /Trends
MI Health Policy /Trends
MI Insurance Carriers
MI Medicare /Trends
MI United States
MI United States** Health Care Financing** Administration

Item: 85

UI 94204199
AU Conway BJ
AU Suleiman OH
AU Rueter FG
AU Antonsen RG
AU Slayton RJ
TI National survey of mammographic facilities in 1985, 1988, and 1992 [see comments]
SO Radiology 1994 May;191(2):323-30
JT RADIOLOGY
AD U.S. Food and Drug Administration, Center for Devices and Radiological Health, Rockville, MD 20857.
LA Eng

AB PURPOSE: To determine trends in mammography in the United States.
MATERIALS AND METHODS: A sample of mammographic facilities was selected for each year of the Nationwide Evaluation of X-ray Trends. The same protocol was followed for the 1985, 1988, and 1992 surveys. Data were collected with use of the same imaging phantom for all three surveys and also with a different phantom in the 1988 and 1992 surveys. RESULTS: Of the 356 facilities surveyed in 1992, 59% claimed to be in compliance with the **Health Care Financing** Administration (HCFA) mammography requirements, 42% were accredited by the American College of Radiology (ACR), and 23% did not hold credentials from either the HCFA or the ACR. Since 1985, there has been a 34% improvement in acceptable phantom image quality score and a 20% decrease in the mean glandular dose. CONCLUSION: Mammography as practiced today is essentially a screen-film technique. Mammographic phantom image quality has improved considerably. The overall mean glandular dose has decreased primarily because of the elimination of xeroradiography.

PT JOURNAL ARTICLE
MJ Ambulatory Care Facilities /Standards
MJ Mammography /Standards
MI Accreditation
MI Ambulatory Care Facilities /Statistics & Numerical Data
MI Data Collection
MI Female
MI Human
MI Mammography /Trends
MI Models Structural
MI Photography /Standards
MI Quality Assurance Health Care
MI Radiation Protection /Standards
MI Technology Radiologic /Standards
MI United States
MI United States** Health Care Financing** Administration
MI X-Ray Intensifying Screens

Item: 86

UI 94202423
AU Lee PR
AU Vladeck BC
TI From the **Health Care Financing** Administration and the US Public Health Service.
SO JAMA 1994 Apr 27;271(16):1230
JT JAMA
AD **Health Care Financing** Administration.
LA Eng
PT JOURNAL ARTICLE
MJ Communicable Disease Control
MJ Immunization Programs
MJ Vaccination
MI Child
MI Child Preschool

MI Human
MI Infant
MI United States
MI United States** Health Care Financing** Administration
MI United States Public Health Service
MI Age 18 and under

Item: 87

UI 94201687
TI Doctor's watch: how to avoid lab fines.
SO J Med Assoc Ga 1994 Jan;83(1):38
JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA
LA Eng
PT JOURNAL ARTICLE
MJ Laboratories /Standards
MJ Practice Management Medical /Standards
MJ United States** Health Care Financing** Administration
MJ United States Occupational Safety and Health Administration
MI Laboratories /Legislation & Jurisprudence
MI United States

Item: 88

UI 94195004
AU Buczko W
TI Differences in hospitalizations among seasonal migrants, adjacent-state and in-state aged Medicare beneficiaries.
SO Med Care 1994 Mar;32(3):308-14
JT MEDICAL CARE
AD **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng
AB Hospitalized snowbirds had stays that were similar to those of in-state beneficiaries in terms of case-mix and intensity. However, snowbirds had much less intense hospitalizations than beneficiaries from adjacent states who often required technology-intensive surgery.
PT JOURNAL ARTICLE
MJ Hospitals /Utilization
MJ Medicare /Statistics & Numerical Data
MJ Retirement /Statistics & Numerical Data
MJ Seasons
MI Aged
MI Alabama
MI Diagnosis-Related Groups /Statistics & Numerical Data
MI Female
MI Florida
MI Georgia
MI Hospitalization /Statistics & Numerical Data
MI Human
MI Male
MI United States
MI Age 19 and over

Item: 89

UI 94187139
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Apr 6;271(13):974
JT JAMA
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Legislation & Jurisprudence
MJ Patient Care Planning /Standards
MJ Skilled Nursing Facilities /Economics
MI Health Services Misuse
MI Human
MI Skilled Nursing Facilities /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 90

UI 94183386
AU Noss E
TI HCFA announces grandfathering provisions for Medicare part B surgical dressing policies [letter]
SO Ostomy Wound Manage 1993 Nov-Dec;39(9):6
JT OSTOMY/WOUND MANAGEMENT
LA Eng
PT LETTER
MJ Bandages
MJ Medicare Part B
MJ Reimbursement Mechanisms
MJ United States** Health Care Financing** Administration
MI Bandages /Economics
MI Organizational Policy
MI United States

Item: 91

UI 94180197
AU Rich EC
AU Wartman SA
TI Health care reform and funding of graduate medical education [editorial]
SO J Gen Intern Med 1994 Jan;9(1):55-7
JT JOURNAL OF GENERAL INTERNAL MEDICINE
LA Eng
PT EDITORIAL
MJ Education Medical Graduate /Economics
MJ Family Practice /Education
MJ Health Care Reform
MJ Internal Medicine /Education
MJ Primary Health Care /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration

MI Human
MI United States

Item: 92

UI 94177295

AU Rich EC

AU Wartman SA

AU Kahn NB Jr

AU Clancey CM

TI The shortage of generalist physicians and federal funding of graduate medical education.

SO Arch Fam Med 1993 Dec;2(12):1232-8

JT ARCHIVES OF FAMILY MEDICINE

AD Department of Medicine, University of Kentucky, Lexington.

LA Eng

AB Graduate Medical Education (GME) payments through the **Health Care Financing** Administration (HCFA) represent the largest portion of federal funding in direct support of training for health professionals. Whatever the benefits of these funds, they clearly have not served as a positive factor in addressing the emerging shortfall of generalist physicians. Therefore, a variety of options are being discussed for restructuring the incentives associated with HCFA GME funds. Seven principal alternatives that have been proposed to address these problems are the following: modification of hospital GME payments, GME payments to medical schools, GME payments to residency programs, GME transfers through Medicare part B, GME transfers to the Health Resources and Service Administration, GME transfers to states through block grants, and GME payments to academic consortia. Unfortunately, each of these approaches offers substantial disadvantages and faces important opposing constituencies. To address these weaknesses, combined strategies and "all payor" federal mechanisms of GME financing have recently been proposed. These compromise approaches have their own administrative and political liabilities as well. Revisions in current HCFA GME payments may be preferable as a first step, but more comprehensive approaches involving all payor financing with mechanisms that reconnect medical school training with primary care practice will likely be required to ensure efficient and effective reform. Such major shifts in the federal funding of GME will not be quick in coming, however, and will doubtless be characterized by a compromise of policy effectiveness with political feasibility.

PT JOURNAL ARTICLE

MJ Education Medical Graduate /Economics

MJ Internship and Residency /Economics

MJ Physicians Family /Supply & Distribution

MJ Training Support /Legislation & Jurisprudence

MJ United States** Health Care Financing** Administration

MI Hospitals Teaching /Economics

MI Medically Underserved Area

MI Medicare

MI Schools Medical /Economics

MI Support U S Govt P H S
MI Training Support /Methods
MI United States
MI United States Health Resources and Services Administration

Item: 93

UI 94176906

AU Pates RD

AU Lundberg MT

AU Hennen J

AU Boymel C

AU Webber A

AU Wright G

AU Hayes RP

AU Simpson PM

AU Lynch GW

AU Merwin E

AU et al

TI Creation of state-level Medicare database for healthcare evaluation applications.

SO Proc Annu Symp Comput Appl Med Care 1993;:663-7

JT PROCEEDINGS / THE ... ANNUAL SYMPOSIUM ON COMPUTER APPLICATIONS IN MEDICAL CARE

AD Thomas Jefferson Health Policy Institute.

LA Eng

AB The Health Care Quality Improvement Initiative (HCQII) of the **Health Care Financing** Administration (HCFA) calls for Professional Review Organizations (PROs) to undertake pattern analysis of large administrative datasets for the purposes of quality of care assessment. The limitations of such administrative databases (primarily the MEDPAR file and derivatives thereof) include impoverished information regarding clinical attributes of Medicare enrollees and the process and outcome of their healthcare. This paper describes preliminary efforts to address this problem by the creation of a database, the PRO Concatenated Database (PCD), from the pooled implicit judgment review data of four Peer Review Organizations (PROs). The data elements comprising the PCD were carefully selected to provide important information regarding quality and appropriateness of care. Preliminary inter-state comparative studies employing the PCD are discussed. A method is also described by which the analytical power of state-level databases may be enhanced by linkage to state-level Modeled MEDPAR data which are issued by HCFA and contain patient-level risk-adjusted mortality data. This approach to the acquisition of data whose clinical content is enriched may prove to be particularly useful to the PRO community during the pattern analysis phase of the HCQII. Such analyses will evolve into more detailed studies involving primary data collection followed by dissemination of the results to local healthcare providers. In this manner, the PCD may facilitate rapid feedback regarding the effectiveness of healthcare delivery to the local community.

PT JOURNAL ARTICLE

- MJ Databases Factual
- MJ Medicare /Standards
- MJ Professional Review Organizations
- MI Aged
- MI Angioplasty Transluminal Percutaneous Coronary /Mortality
- MI Angioplasty Transluminal Percutaneous Coronary /Statistics & Numerical Data
- MI Angioplasty Transluminal Percutaneous Coronary /Utilization
- MI Coronary Artery Bypass /Mortality
- MI Coronary Artery Bypass /Statistics & Numerical Data
- MI Coronary Artery Bypass /Utilization
- MI Hospital Mortality
- MI Human
- MI Outcome Assessment Health Care
- MI Quality Assurance Health Care
- MI United States
- MI Virginia
- MI Age 19 and over

Item: 94

- UI 94176529
- AU Strauss RP
- TI Health policy and craniofacial care: issues in resource allocation.
- SO Cleft Palate Craniofac J 1994 Jan;31(1):78-80
- JT CLEFT PALATE-CRANIOFACIAL JOURNAL
- AD Department of Dental Ecology, University of North Carolina School of Dentistry, Chapel Hill, NC 27599-7450.
- LA Eng
- AB The distribution of health care services, including craniofacial services in the United States, is examined. The U.S. has a unique ****health care financing**** and organizational system in which persons are most commonly covered by health insurance as a benefit of their employment. Current estimates are that nearly 40 million Americans have no health insurance (Himmelstein et al., 1992). Approximately half of the uninsured persons are in low-wage employment that does not provide health insurance benefits nor allow them to qualify for Medicaid (Pepper Commission, 1990). Personal health care costs now exceed 11% of the U.S. gross domestic product, a significantly higher percentage than that found in other industrialized nations (Consumer Reports, 1990b). Within the current system, is health care distributed in a fair or moral manner? What are the effects of the allocation scheme? Possible changes in ****health care financing**** and delivery are examined and basic ethical and social issues associated with a changing U.S. health care delivery system are explored.

- PT JOURNAL ARTICLE
- MJ Health Care Rationing
- MJ Health Policy
- MJ Surgery Oral /Economics
- MI Adult
- MI Aged

MI Child
MI Facial Bones /Abnormalities
MI Family Practice
MI Health Care Costs
MI Health Care Reform
MI Health Planning
MI Health Services Needs and Demand
MI Human
MI Insurance Health
MI Medically Uninsured
MI Poverty
MI Primary Health Care
MI Skull /Abnormalities
MI Surgery Oral /Organization & Administration
MI United States
MI Age 18 and under
MI Age 19 and over

Item: 95

UI 94169469
AU Tokars JI
AU Alter MJ
AU Favero MS
AU Moyer LA
AU Bland LA
TI National surveillance of dialysis associated diseases in the United States, 1991.
SO ASAIO J 1993 Oct-Dec;39(4):966-75
JT ASAIO JOURNAL
AD Investigation and Prevention Branch, Hospital Infections Program, Centers for Disease Control and Prevention, Atlanta, GA 30333.
LA Eng
AB To determine trends in a number of hemodialysis associated diseases and practices, the Centers for Disease Control and Prevention in collaboration with the **Health Care Financing** Administration performed a mail survey of chronic hemodialysis centers in the United States in 1991. Of 2,123 centers surveyed, 2,046 (96%), representing 155,877 patients and 40,298 staff members, responded. The 1991 survey found that certain hemodialysis practices are increasing in frequency, including use of bicarbonate dialysate and high-flux dialysis and reuse of disposable dialyzers (in 1991, 71% of centers reused dialyzers). Hepatitis B surface antigen (HBsAg) was present at low frequency in patients (incidence = 0.2%, prevalence = 1.3%) and staff (incidence = 0.04%, prevalence = 0.3%). Among centers that had > or = HBsAg positive patient, the incidence of hepatitis B virus (HBV) infection was lower in those centers that used a separate room for dialysis of HBsAg positive patients. Reuse of dialyzers, blood lines, transducer filters, or dialyzer caps was not associated with an increased risk of acquiring HBV infection among either patients or staff. Antibody to HBsAg was present in 21% of patients and 53% of staff, and was significantly related to

levels of hepatitis B vaccine coverage. Pyrogenic reactions in the absence of septicemia were reported by 20% of centers and associated with the reuse of dialyzers. Human immunodeficiency virus (HIV) was known to be present in 1.2% of patients; 29% of centers reported providing hemodialysis to one or more HIV infected patients.

PT JOURNAL ARTICLE
MJ Hemodialysis /Adverse Effects
MI Fever /Etiology
MI Health Surveys
MI Hepatitis B /Epidemiology
MI Hepatitis B Antibodies /Blood
MI Hepatitis B Vaccines /Immunology
MI Hepatitis C /Epidemiology
MI Human
MI HIV Infections /Epidemiology
MI Incidence
MI Prevalence
MI United States /Epidemiology

Item: 96

UI 94169462
AU Sherman RA
AU Cody RP
AU Solanchick JC
TI Body weight and adequacy of hemodialysis. Results of an ESRD Network Study.
SO ASAIO J 1993 Oct-Dec;39(4):933-5
JT ASAIO JOURNAL
AD Department of Medicine, UMDNJ-Robert Wood Johnson Medical School, New Brunswick 08903.
LA Eng
AB As part of the Medical Case Review Study mandated by the US **Health Care Financing** Administration, the Trans-Atlantic Renal Council obtained urea kinetic data on 244 patients. When analyzed by body weight, the mean Kt/V urea for the 35 patients weighing more than 1 standard deviation over the mean (over 88.1 kg) was 0.943, compared with 1.106 for the remaining 209 patients ($p = 0.007$). The high body weight (HBW) patients were 54% more likely to have a Kt/V less than 1.0 than the remaining patients (68.6% of HBW patients versus 44.5% of control patients, $p = 0.009$). Two-way analysis of variance showed that the tendency to underdialyze HBW patients was present across facilities. Even with the availability of urea kinetic data, HBW patients tend to be less well dialyzed than those of lower body weight.
PT JOURNAL ARTICLE
MJ Body Weight
MJ Hemodialysis
MI Human
MI Support, Non-U.S. Gov't

Item: 97

UI 94168207
 AU Santell JP
 AU Bruderle TP
 TI Outpatient drug discounts for hospitals with a disproportionate share of indigent patients.
 SO Am J Hosp Pharm 1993 Dec;50(12):2506-8
 JT AMERICAN JOURNAL OF HOSPITAL PHARMACY
 LA Eng
 PT JOURNAL ARTICLE
 MJ Ambulatory Care /Economics
 MJ Drug Costs
 MJ Hospitals Voluntary /Economics
 MJ Medicaid /Legislation & Jurisprudence
 MJ Medical Indigency /Economics
 MI Hospital Costs
 MI Hospitals Voluntary /Legislation & Jurisprudence
 MI United States
 MI United States Department of Veterans Affairs
 MI United States** Health Care Financing** Administration
 MI United States Public Health Service

Item: 98

UI 94168004
 AU Michels KA
 AU Hopkinson SE
 TI HCFA issues 1994 CRNA and anesthesiologist Medicare conversion factors.
 SO AANA J 1994 Feb;62(1):14-8
 JT AANA JOURNAL
 LA Eng
 PT JOURNAL ARTICLE
 MJ Anesthesia /Economics
 MJ Insurance Health Reimbursement
 MJ Medicare
 MI Human
 MI Nurse Anesthetists
 MI United States
 MI United States** Health Care Financing** Administration

Item: 99

UI 94163524
 AU Vassar MJ
 AU Holcroft JW
 TI The case against using the APACHE system to predict intensive care unit outcome in trauma patients.
 SO Crit Care Clin 1994 Jan;10(1):117-26; discussion 127-34
 JT CRITICAL CARE CLINICS
 AD Department of Community and International Health, University of California School of Medicine at Davis.
 LA Eng
 AB The use of outcome indices as a means of evaluating institutional

performance for delivery of medical care is at the forefront of federal health policy reforms. Because an enormous number of clinical and financial data are generated by ICU patients, it is inevitable that integrated bedside computers will be necessary to supply the type of information that is being sought by governmental and private insurance agencies involved in assessment of hospital performance. The **Health Care Financing** Administration already has adopted the APACHE data collection protocols and predictive models for the severity of illness adjustments that were used in assessing the 1986 hospital-specific death rate for acute myocardial infarction, congestive heart failure, stroke, and pneumonia. In our opinion, however, it is unlikely that any single system will be developed that can accurately estimate more than 50% of ICU deaths. The intention of the APACHE III system to include 78 diagnostic categories seems unrealistic. Furthermore, the number of data needed to document outcomes for both low- and high-risk admissions is impractical. We are evaluating APACHE III to determine whether the revisions to the definition for head trauma will represent a significant improvement in predicting outcomes for trauma patients. In the interim, the financial investment in the APACHE III automated bedside data collection system cannot be justified for trauma patients. Neither should it be used in ICUs that admit a large number of trauma patients as a tool for monitoring unit efficiency, guiding triage decisions, allocating staff and ICU beds, identifying risks of iatrogenic or other potential complications, or assessing quality of life, in spite of marketing efforts by the APACHE Corporation. We believe that using any of the APACHE systems for these purposes, at best, is premature, and potentially misrepresents the trauma patient population. Standards for patient classification already are in place for use in making determinations for institutional reimbursement from governmental and insurance agencies. The inequities for certain subgroups of patients, including trauma patients, could create situations in which care is rationed rather than allocated according to a plan that distributes resources efficiently. The APACHE system has several shortcomings and adds little, if anything, to the potential solutions for trauma quality assurance and resource allocation. Nor has the APACHE system established procedures for documenting institutional review of unexpected trauma deaths that would be equivalent, for example, to the type of audit filters applied by the American College of Surgeons in conjunction with the TRISS methodology.(ABSTRACT TRUNCATED AT 400 WORDS)

PT JOURNAL ARTICLE
PT MULTICENTER STUDY
MJ Intensive Care Units
MJ Multiple Trauma /Classification
MJ Multiple Trauma /Mortality
MJ Outcome Assessment Health Care /Organization & Administration
MJ Trauma Severity Indices
MI Bias Epidemiology
MI Comparative Study
MI Decision Making Organizational
MI Forecasting

MI Human
MI Intensive Care Units /Organization & Administration
MI Logistic Models
MI Prognosis
MI Reproducibility of Results
MI Sensitivity and Specificity
MI Support U S Govt P H S

Item: 100

UI 94162000
AU Tierney J
AU Wilson D
TI The effect of the Medicare regulations on hospice practice: enhancing staff performance.
SO Am J Hosp Palliat Care 1993 Mar-Apr;10(2):26-31
JT AMERICAN JOURNAL OF HOSPICE AND PALLIATIVE CARE
LA Eng
AB The purpose of this paper is to examine the federal hospice regulations (42 CFR 418.50-.100) and identify from these standards key characteristics that help define important aspects of palliative hospice care. The other purpose will be to examine these requirements to determine what these standards say or imply about the functioning of the hospice staff within the certified program. We assert that in order for a certified program to function in the capacity outlined in the federal hospice requirements, both the administration and staff need to understand, and then practice, the complex role delineated within the Congressional Law and ensuing regulations. The Medicare hospice regulations are a recognized program standard throughout the nation. These requirements, finalized in 1983, were developed by the **Health Care Financing** Administration (HCFA) as a result of the Congressional Tax Equity and Fiscal Responsibility Act (TEFRA, 1982). Since the promulgation of these regulations, hospices wishing to gain certification have had to adapt and mold their program focus and clinical procedures to meet this legislative mandate. Although some hospice administrators may perceive the Medicare requirements simply as hoops to be jumped through in order to gain funding, in truth, these regulations stand as a benchmark in the history of American hospice care. In their totality, the rules set forth a system of health care that is singular in program design.
PT JOURNAL ARTICLE
MJ Facility Regulation and Control
MJ Hospice Care /Standards
MJ Medicare
MJ Quality of Health Care
MI Certification
MI Hospice Care /Legislation & Jurisprudence
MI Human
MI Nursing Staff /Standards
MI Patient Care Team
MI United States

Item: 101

UI 94157216
AU D'Eustachio RW
TI Access, **health care financing** and reform. Change and continuity in health care in the United States.
SO J Am Coll Dent 1993 Winter;60(3):6-8
JT JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS
LA Eng
PT JOURNAL ARTICLE
MJ Dental Care
MJ Health Care Reform
MJ Health Services Accessibility
MI American Dental Association
MI Continuity of Patient Care
MI Dental Care /Economics
MI Human
MI United States

Item: 102

UI 94156698
AU Ballard DJ
AU Bryant SC
AU O'Brien PC
AU Smith DW
AU Pine MB
AU Cortese DA
TI Referral selection bias in the Medicare hospital mortality prediction model: are centers of referral for Medicare beneficiaries necessarily centers of excellence?
SO Health Serv Res 1994 Feb;28(6):771-84
JT HEALTH SERVICES RESEARCH
AD Thomas Jefferson Health Policy Institute, Charlottesville, VA 22901.
LA Eng
AB OBJECTIVE. Although the **Health Care Financing** Administration (HCFA) uses Medicare hospital mortality data as a measure of hospital quality of care, concerns have been raised regarding the validity of this concept. A problem that has not been fully evaluated in these data is the potential confounding effect of illness severity factors associated with referral selection and hospital mortality on comparisons of risk-adjusted hospital mortality. We address this issue. DATA SOURCES AND STUDY SETTING. We analyzed the 1988 Medicare hospitalization data file (MEDPAR). We selected data on patients treated at the two Mayo Clinic-associated hospitals in Rochester, Minnesota, and a group of seven other hospitals that treat many patients from large geographic areas. These hospitals have had observed mortality rates substantially lower than those predicted by the HCFA model for the period 1987-1990. STUDY DESIGN. Using the multiple logistic regression model applied by HCFA to the 1988 data, we evaluated the relationship between distance from patient residence to the admitting hospital and risk-adjusted

hospital mortality. PRINCIPAL FINDINGS. Among patients admitted to Mayo Rochester-affiliated hospitals, residence outside Olmsted County, Minnesota was independently associated with a 33 percent lower 30-day mortality rate ($p < .001$) than that associated with residence in Olmsted County. When patients at Mayo hospitals were stratified by residence (Olmsted County versus non-Olmsted County), the observed mortality was similar to that predicted for community patients (9.6 percent versus 10.2 percent, $p = .26$), whereas hospital mortality for referral patients was substantially lower than predicted (5.0 percent versus 7.5 percent, $p = < .001$). After incorporation of the HCFA risk adjustment methods, distance from patient residence to the hospitals was also independently associated with mortality among the Mayo Rochester-affiliated hospitals and seven other referral center hospitals. CONCLUSIONS. The HCFA Medicare hospital mortality model should be used with extreme caution to evaluate hospital quality of care for national referral centers because of residual confounding due to severity of illness factors associated with geographic referral that are inadequately captured in the extant prediction model.

PT JOURNAL ARTICLE
 MJ Hospital Mortality
 MJ Hospitals /Standards
 MJ Medicare /Standards
 MJ Models Statistical
 MJ Quality of Health Care
 MJ Referral and Consultation
 MI Aged
 MI Aged 80 and over
 MI Hospitals Group Practice /Statistics & Numerical Data
 MI Hospitals Group Practice /Standards
 MI Human
 MI Medicare /Statistics & Numerical Data
 MI Minnesota
 MI Referral and Consultation /Statistics & Numerical Data
 MI Residence Characteristics
 MI Selection Bias
 MI Severity of Illness Index
 MI Support, Non-U.S. Gov't
 MI Support U S Govt P H S
 MI United States
 MI United States** Health Care Financing** Administration
 MI Age 19 and over

Item: 103

UI 94155480
 AU Bagan M
 TI Physician reimbursement: what went wrong?
 SO Clin Neurosurg 1993;40:219-24
 JT CLINICAL NEUROSURGERY
 AD Surgical Neurology, P.A., Concord, New Hampshire.
 LA Eng

PT HISTORICAL ARTICLE
PT JOURNAL ARTICLE
MJ Insurance Health Reimbursement /Legislation & Jurisprudence
MJ Neurosurgery /Legislation & Jurisprudence
MI Fees and Charges /Legislation & Jurisprudence
MI History of Medicine 20th Cent
MI Human
MI Insurance Health Reimbursement /Economics
MI Insurance Health Reimbursement /History
MI Neurosurgery /Economics
MI Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 104

UI 94143892
AU Smith JR
TI Creating an integrated health care delivery system: a regional nonprofit provider case study.
SO Top Health Care Financ 1993 Winter;20(2):82-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB The development of integrated health care systems holds many pitfalls as well as potentials. This case study describes the development of the strategy that has moved the structure, mission, and vision of a health care system. It examines the questions of what members, payers, and providers' needs are when defined around the paradigm of responsibility for the health as well as the health care of a population. It starts by examining the background of the development of the strategies used by the health system during the past decade, and the environmental climate that has led to a redefinition of the mission and vision of the organization. This movement has moved the focus on acute health services to the development of a regional integrated health care system based on collaboration and on a responsibility to improve the health of those we serve through treatment, prevention, and education. Finally, the chapter reviews the options facing all of us: do we compete, collaborate, or both?
PT JOURNAL ARTICLE
MJ Comprehensive Health Care /Organization & Administration
MJ Multi-Institutional Systems /Organization & Administration
MI Delivery of Health Care /Organization & Administration
MI Goals
MI Hospitals Religious /Organization & Administration
MI Human
MI Organizational Objectives
MI Pennsylvania

Item: 105

UI 94143891
AU McAuley LT

TI Administrative and operational responsibilities in contract management.
SO Top Health Care Financ 1993 Winter;20(2):76-81
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, West Region Los Angeles Health Care Practice.
LA Eng
AB Frequently, chief financial officers or marketing executives negotiate contracts that are difficult if not impossible to implement. In addition, those parties responsible for implementing contracts are often unaware of the terms. Formal verbal and written communications within a health care organization will minimize consumer (payer and patient) displeasure, as well as alleviate internal frustration and stress.

PT JOURNAL ARTICLE
MJ Contract Services /Organization & Administration
MJ Hospital Departments /Organization & Administration
MJ Managed Care Programs /Organization & Administration
MI Communication
MI Human
MI United States
MI Utilization Review

Item: 106

UI 94143890
AU Malcolm CL
AU Fukui M
TI Specialty service contracting.
SO Top Health Care Financ 1993 Winter;20(2):68-75
JT TOPICS IN **HEALTH CARE FINANCING**
AD University of Chicago Hospitals.
LA Eng
AB Package pricing of specific services and procedures can be an effective cost-containment and marketing tool for payers and providers. Payers can secure fixed prices at discounted rates, and hospitals and physicians can retain and gain market share in an increasingly competitive health care market. Successful implementation of a package pricing strategy, however, requires a careful assessment of both market and operational factors. This chapter outlines how to identify opportunities for package pricing and how to establish rates and procedures.

PT JOURNAL ARTICLE
MJ Contract Services /Economics
MJ Hospitals /Standards
MJ Managed Care Programs /Economics
MJ Specialties Medical /Economics
MI Contract Services /Organization & Administration
MI Contract Services /Trends
MI Cost Control
MI Economic Competition
MI Hospital Charges
MI Hospital Costs
MI Human

MI Specialties Medical /Standards
MI United States

Item: 107

UI 94143889
AU Valentine ST
TI Independent practice associations: are they viable?
SO Top Health Care Financ 1993 Winter;20(2):65-7
JT TOPICS IN **HEALTH CARE FINANCING**
AD Camden Management Group, Torrance, CA.
LA Eng
AB As managed care systems grow along with the efforts of health care reform, independent practice associations (IPAs) will develop and grow. Their success is dependent on efficient management, enrollment, computer systems, a strong medical director, and case management. The IPA is an effective organization to deliver care through a capitated payment system.
PT JOURNAL ARTICLE
MJ Independent Practice Associations /Organization & Administration
MJ Primary Health Care /Organization & Administration
MI Capitation Fee
MI Human
MI Independent Practice Associations /Economics
MI Independent Practice Associations /Trends
MI Primary Health Care /Trends
MI United States

Item: 108

UI 94143888
AU Katz PM
TI Establishing a physician incentive system.
SO Top Health Care Financ 1993 Winter;20(2):53-64
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
AB The increasing complexity of managed care is changing the need for better information on medical costs and utilization. Because most claims systems have limited reporting and analysis capabilities, a better alternative is to transfer the data into the reporting systems described herein, in which a comprehensive analysis is conducted faster and at a lower cost. Virtually any type of analysis is possible.
PT JOURNAL ARTICLE
MJ Managed Care Programs /Economics
MJ Physician Incentive Plans /Economics
MJ Primary Health Care /Economics
MI Adult
MI California
MI Costs and Cost Analysis
MI Human
MI Managed Care Programs /Manpower
MI Managed Care Programs /Organization & Administration

MI Physician Incentive Plans /Organization & Administration
MI Referral and Consultation
MI Specialties Medical /Economics
MI United States
MI Age 19 and over

Item: 109

UI 94143887
AU Mack JM
TI Managed care relationships from the physician's perspective.
SO Top Health Care Financ 1993 Winter;20(2):38-52
JT TOPICS IN **HEALTH CARE FINANCING**
AD Western Region Health Care, Ernst & Young, Los Angeles, CA.
LA Eng
AB In response to health care reform proposals as well as health plans, hospitals and individual physicians are affiliating into models that will favorably position them in the evolving managed care marketplace. The development of integrated delivery vehicles requires a merging of physician and hospital cultures. To manage this process the relationship between hospitals and physicians must receive the greatest attention. This chapter describes physician perceptions of specific aspects in the evolving managed care marketplace. Understanding reactions to various initiatives will enable readers to overcome resistance to change and improve their managed care relationships with physicians.
PT JOURNAL ARTICLE
MJ Job Satisfaction
MJ Managed Care Programs /Economics
MJ Medical Staff /Economics
MI Hospital-Physician Joint Ventures /Economics
MI Human
MI Income
MI Managed Care Programs /Manpower
MI Managed Care Programs /Organization & Administration
MI Medical Staff /Psychology
MI Models Organizational
MI Preferred Provider Organizations /Economics
MI Preferred Provider Organizations /Organization & Administration
MI Quality of Life
MI Referral and Consultation
MI Specialties Medical
MI United States

Item: 110

UI 94143886
AU Hampshire DA
AU Rosborough BJ
TI The evolution of decision support in a managed care organization.
SO Top Health Care Financ 1993 Winter;20(2):26-37
JT TOPICS IN **HEALTH CARE FINANCING**

AD Health Care Performance Improvement Services, Ernst & Young, Western
Region, Los Angeles, CA.
LA Eng
AB As managed care organizations (MCOs) develop in the 1990s, a challenge
for managers is the transformation of data into information. This
transformation process is responsible for organizations developing
decision support systems. Decision support enables an individual to
combine financial analysis and operational data to enhance managerial
decision making and strategic planning, and institute the closed-loop
process. This system evolution will help to determine those MCOs that
will become more adept at enhancing profitability and streamlining
decision making.
PT JOURNAL ARTICLE
MJ Decision Support Systems Management /Trends
MJ Managed Care Programs /Organization & Administration
MI Forms and Records Control
MI Human
MI Managed Care Programs /Legislation & Jurisprudence
MI United States

Item: 111

UI 94143885
AU Miller WJ
TI Legal considerations in managed care contracting.
SO Top Health Care Financ 1993 Winter;20(2):17-25
JT TOPICS IN **HEALTH CARE FINANCING**
AD Weissburg and Aronson Inc., Los Angeles.
LA Eng
AB Managed health care systems are created primarily through contracting.
Although contracts with managed care organizations, such as health
maintenance organizations, are often presented to providers as
non-negotiable, this chapter discusses basic contract terms that are
frequently negotiated by the parties, including key contract
definitions, compensation, term and termination, and "boilerplate"
provisions. The chapter also emphasizes the need for contracting
parties to conduct precontracting due diligence and to comply with
applicable antitrust laws in negotiating contracts with groups of
independent providers.
PT JOURNAL ARTICLE
MJ Contract Services /Legislation & Jurisprudence
MJ Managed Care Programs /Legislation & Jurisprudence
MI Contract Services /Organization & Administration
MI Human
MI Managed Care Programs /Organization & Administration
MI Quality Assurance Health Care
MI United States
MI Utilization Review

Item: 112

UI 94143884

AU Carroll MS
TI Managed care programs: an employer perspective.
SO Top Health Care Financ 1993 Winter;20(2):10-6
JT TOPICS IN **HEALTH CARE FINANCING**
AD CaliforniaCare, Blue Cross of California, Woodland Hills.
LA Eng
AB Throughout the 1980s, employers made many health care benefit plan modifications that were directed toward containing costs. This chapter discusses potential managed care program changes that may occur in the coming years. Specifically reviewed are partnerships between employers and managed care entities; possible features of the next generation of managed care plans; and dimensions of a cost-benefit analysis that employers could use to gauge the cost-effectiveness of future plan changes.

PT JOURNAL ARTICLE
MJ Employer Health Costs
MJ Managed Care Programs /Trends
MI Cost-Benefit Analysis
MI Health Benefit Plans Employee /Economics
MI Human
MI Managed Care Programs /Economics
MI United States
MI Utilization Review

Item: 113

UI 94143883
AU Lipson EH
TI What are purchasers looking for in managed care quality?
SO Top Health Care Financ 1993 Winter;20(2):1-9
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, San Francisco, California.
LA Eng
AB Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality.

PT JOURNAL ARTICLE
MJ Managed Care Programs /Standards
MJ Quality Assurance Health Care /Organization & Administration
MI Attitude of Health Personnel
MI Human
MI United States

Item: 114

UI 94142071
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Mar 2;271(9):649
JT JAMA
AD **Health Care Financing** Administration.
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Claim Review
MJ Medical Informatics Computing
MJ Medicare /Organization & Administration
MI Insurance Claim Review /Trends
MI Medical Informatics Computing /Trends
MI United States
MI United States** Health Care Financing** Administration

Item: 115

UI 94139190
AU Dunn TR
TI The new direction: a report/update from the Colorado Foundation for Medical Care.
SO Colo Med 1993 Dec;90(12):442-3
JT COLORADO MEDICINE
AD Colorado Foundation for Medical Care.
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Trends
MJ Quality Assurance Health Care /Trends
MJ United States** Health Care Financing** Administration /Trends
MI Aged
MI Colorado
MI Human
MI United States
MI Age 19 and over

Item: 116

UI 94134370
AU Javitt JC
AU Street DA
AU Tielsch JM
AU Wang Q
AU Kolb MM
AU Schien O
AU Sommer A
AU Bergner M
AU Steinberg EP
TI National outcomes of cataract extraction. Retinal detachment and endophthalmitis after outpatient cataract surgery. Cataract Patient

Outcomes Research Team.

SO Ophthalmology 1994 Jan;101(1):100-5; discussion 106

JT OPHTHALMOLOGY

AD Worthen Center for Eye Care Research, Department of Ophthalmology,
Georgetown University Medical Center, Washington, DC.

LA Eng

AB BACKGROUND: A near-total shift to cataract extraction on an outpatient basis occurred as a result of an administrative ruling by the **Health Care Financing** Administration. No national study has been conducted to assess the possible effects of that decision on clinical outcomes of surgery. The authors compared the rates of retinal detachment (RD) repair and hospitalization for endophthalmitis after extracapsular cataract extraction (ECCE) (including phacoemulsification) in 1986 and 1987 with those following inpatient cataract extraction in 1984. METHODS: Using the 5% random sample of Medicare beneficiaries, we analyzed the claims of all individuals 66 years of age or older who underwent ECCE by nuclear expression or phacoemulsification in 1986 and 1987. A total of 57,103 patients were identified and followed to the end of 1988. Cumulative probability of RD repair and hospitalization for endophthalmitis was calculated by standard lifetable methods. These findings were compared with the cumulative probability of the same complications in a cohort of 330,000 patients who underwent cataract extraction on an inpatient basis in 1984. RESULTS: In the 1986-to-1987 cohort, the cumulative probability of RD within 3 years after cataract surgery was 0.81% and the cumulative probability of endophthalmitis within 1 year was 0.08%. The rate of RD is similar to that which we previously reported for 330,000 patients who underwent inpatient surgery in 1984, but the rate of endophthalmitis is significantly lower in the 1986-to-1987 outpatient cohort (0.08% versus 0.12%; $z = 2.42$; $P = 0.01$). CONCLUSIONS: The shift to outpatient cataract surgery was accompanied by no significant increase in the probability of RD repair and possibly a significant decrease in the rate of hospitalization for endophthalmitis.

PT JOURNAL ARTICLE

MJ Cataract Extraction /Adverse Effects

MJ Endophthalmitis /Etiology

MJ Retinal Detachment /Etiology

MI Aged

MI Aged 80 and over

MI Ambulatory Care

MI Comparative Study

MI Endophthalmitis /Therapy

MI Female

MI Human

MI Incidence

MI Male

MI Medicare

MI Probability

MI Proportional Hazards Models

MI Retinal Detachment /Surgery

MI Risk Factors

MI Support U S Govt P H S
MI Treatment Outcome
MI United States
MI Age 19 and over

Item: 117

UI 94130203
AU Minarik PA
TI **Health Care Financing** Administration (HCFA) instructions clarify Medicare reimbursement eligibility.
SO Clin Nurse Spec 1994 Jan;8(1):16
JT CLINICAL NURSE SPECIALIST
LA Eng
PT JOURNAL ARTICLE
MJ Medicare
MJ Nurse Clinicians
MJ Reimbursement Mechanisms
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 118

UI 94127358
AU McBean AM
AU Warren JL
AU Babish JD
TI Continuing differences in the rates of percutaneous transluminal coronary angioplasty and coronary artery bypass graft surgery between elderly black and white Medicare beneficiaries.
SO Am Heart J 1994 Feb;127(2):287-95
JT AMERICAN HEART JOURNAL
AD Epidemiology Branch, Office of Research, **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng
AB Rates of hospitalization among black and white male and female Medicare beneficiaries, 65 years of age and older, for percutaneous transluminal coronary angioplasty (PTCA) and coronary artery bypass graft (CABG) surgery and 30-day postadmission mortality rates were compared for the years 1986 through 1990. The age-adjusted rates of hospitalization for both procedures increased, and the 30-day postadmission mortality rates decreased in all four race-sex groups. The greatest increase in the procedure rates were seen among white males. Using two estimates of the prevalence of ischemic heart disease in the elderly to adjust for the need for these cardiac procedures, the 1990 rates of PTCA in white beneficiaries were between 1.55 and 1.99 times higher than the rates among black beneficiaries, and the rates of CABG surgery were between 1.68 and 2.16 times higher. These differences in revascularization rates raise questions about whether there is equal access to certain treatments in the two race groups.
PT JOURNAL ARTICLE

MJ Angioplasty Transluminal Percutaneous Coronary /Statistics & Numerical
 Data
 MJ Blacks
 MJ Coronary Artery Bypass /Statistics & Numerical Data
 MJ Medicare
 MJ Whites
 MI Aged
 MI Angioplasty Transluminal Percutaneous Coronary /Mortality
 MI Blacks /Statistics & Numerical Data
 MI Coronary Artery Bypass /Mortality
 MI Female
 MI Hospital Mortality
 MI Hospitalization /Statistics & Numerical Data
 MI Human
 MI Male
 MI Medicare /Statistics & Numerical Data
 MI Myocardial Infarction /Epidemiology
 MI Myocardial Ischemia /Epidemiology
 MI Prevalence
 MI Sex Factors
 MI United States /Epidemiology
 MI Whites /Statistics & Numerical Data
 MI Age 19 and over

Item: 119

UI 94126041
 AU Gayken JA
 AU Bennington JW Sr
 TI CLIA '88 laboratory inspections. Prepare and survive.
 SO Minn Med 1993 Nov;76(11):28-30
 JT MINNESOTA MEDICINE
 AD Alliance Consulting Service, St. Cloud, Minnesota.
 LA Eng
 PT JOURNAL ARTICLE
 MJ Diagnostic Tests Routine
 MJ Laboratories /Legislation & Jurisprudence
 MJ Quality Assurance Health Care /Legislation & Jurisprudence
 MJ United States** Health Care Financing** Administration /Legislation &
 Jurisprudence
 MI Accreditation /Legislation & Jurisprudence
 MI Certification /Legislation & Jurisprudence
 MI Human
 MI Minnesota
 MI United States

Item: 120

UI 94120888
 AU Michels KA
 TI Medicare rural hospital pass-through for CRNA services.
 SO AANA J 1993 Jun;61(3):216-7

JT AANA JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Hospitals Rural /Economics
MJ Nurse Anesthetists /Economics
MJ Reimbursement Mechanisms
MI Human
MI Medicare
MI United States
MI United States** Health Care Financing** Administration

Item: 121

UI 94119236
AU Neumann M
TI HCFA, Minntech continue battle over use of data from reuse studies
[news]
SO Nephrol News Issues 1994 Jan;8(1):9-10
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT NEWS
MJ Kidney Artificial
MJ Records
MI Equipment Reuse
MI Human
MI Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 122

UI 94111149
AU Reynolds T
TI Linked databases help researchers track costs, care patterns, outcomes
[news]
SO J Natl Cancer Inst 1994 Feb 2;86(3):168-71
JT JOURNAL OF THE NATIONAL CANCER INSTITUTE
LA Eng
PT NEWS
MJ Databases Factual
MJ Neoplasms /Economics C4 C4.0
MJ Neoplasms /Therapy C4 C4.0
MJ Registries
MI Confidentiality
MI Cost-Benefit Analysis
MI Human
MI National Institutes of Health U S
MI Treatment Outcome
MI United States
MI United States** Health Care Financing** Administration

Item: 123

UI 94109249
AU Sonnenberg A
AU Massey BT
AU Jacobsen SJ
TI Hospital discharges resulting from esophagitis among Medicare beneficiaries.
SO Dig Dis Sci 1994 Jan;39(1):183-8
JT DIGESTIVE DISEASES AND SCIENCES
AD Division of Gastroenterology, VA Medical Center, Milwaukee, Wisconsin 53295.
LA Eng
AB Despite the frequent occurrence of gastroesophageal reflux disease, until now only very few studies have dealt with the epidemiology of this common disorder. The **Health Care Financing** Administration compiles annually 10 million records of all hospital discharges among Medicare beneficiaries distributed throughout the United States. The purpose of the present study was to take advantage of this large data set and analyze the demographic characteristics of patients discharged with esophagitis, esophageal ulcer, or esophageal stricture. The hospital discharge rates of all three diagnoses showed an age-related rise, the rise being most pronounced for esophageal stricture and, less significant, esophageal ulcer. The marked age dependency of esophageal stricture and ulcer may reflect the time necessary for complications to develop. While simple esophagitis affected women more frequently than men, significantly more men contracted its severe forms involving ulcers and strictures. All forms were more common in whites than blacks, and living in the southern parts of the United States was associated with an increased risk for esophagitis and strictures. The data suggest that besides varying exposure to environmental risk factors, differences in the pathophysiology among demographically stratified groups contribute to the occurrence of esophagitis.

PT JOURNAL ARTICLE
MJ Esophageal Stenosis /Epidemiology
MJ Esophagitis /Epidemiology
MJ Medicare /Statistics & Numerical Data
MI Age Factors
MI Aged
MI Aged 80 and over
MI Esophageal Diseases /Epidemiology
MI Female
MI Hospitalization /Statistics & Numerical Data
MI Human
MI Male
MI Patient Discharge /Statistics & Numerical Data
MI Risk Factors
MI Sex Factors
MI Ulcer /Epidemiology
MI United States /Epidemiology
MI Age 19 and over

Item: 124

UI 94104058
AU Vladeck BC
TI From the **Health Care Financing** Administration.
SO JAMA 1994 Jan 19;271(3):180
JT JAMA
LA Eng
PT JOURNAL ARTICLE
MJ Health Care Reform
MJ United States** Health Care Financing** Administration /Organization & Administration
MI Policy Making
MI United States
MI United States** Health Care Financing** Administration /Trends

Item: 125

UI 94101240
AU Capron AM
TI The Patient Self-Determination Act: a cooperative model for implementation.
SO Camb Q Healthc Ethics 1992 Spring;1(2):97-106
JT CAMBRIDGE QUARTERLY OF HEALTHCARE ETHICS
AD Pacific Center for Health Policy and Ethics, University of Southern California, Los Angeles.
LA Eng
PT JOURNAL ARTICLE
MJ Advance Directives /Legislation & Jurisprudence
MJ Health Facilities /Legislation & Jurisprudence
MJ Patient Participation /Legislation & Jurisprudence
MI California
MI Ethics Institutional
MI Human
MI Informed Consent /Legislation & Jurisprudence
MI Organizational Policy
MI Patient Education /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 126

UI 94101215
AU Tell GS
AU Fried LP
AU Hermanson B
AU Manolio TA
AU Newman AB
AU Borhani NO
TI Recruitment of adults 65 years and older as participants in the Cardiovascular Health Study [see comments]
SO Ann Epidemiol 1993 Jul;3(4):358-66
JT ANNALS OF EPIDEMIOLOGY

AD Department of Public Health Sciences, Bowman Gray School of Medicine,
Winston-Salem, NC.

LA Eng

AB Few large-scale epidemiologic studies have enrolled older adults; hence,
little is known about the feasibility of recruiting this group for
long-term population-based studies. In this article we present the
recruitment experience of the Cardiovascular Health Study (CHS), a
population-based, longitudinal study of cardiovascular diseases in
adults 65 years and older. Participants were sampled from the **Health
Care Financing** Administration's (HCFA) Medicare eligibility lists in
four US communities. Letters were mailed to 11,955 sampled individuals.
Persons recruited were required to complete an extensive home interview
and then a 4-hour in-clinic examination. Excluded were persons who were
expected to be able to complete the baseline examination and who were
not expected to return for the 3-year follow-up. Some 3654 participants
were recruited from those randomly selected from the Medicare sampling
frame. In addition, 1547 other age-eligible persons living in the
household with the sampled individuals also participated, yielding a
total of 5201 participants. Of those who were contacted, 9.6% were
ineligible and 34.9% refused participation. Among those eligible, 38.6%
refused and 57.3% were enrolled (the remaining did not refuse but were
not enrolled before the recruitment ended). Data from a subsample
indicate that compared to those who were ineligible or who refused,
enrolled participants were younger, more highly educated, more likely to
be married, and less likely to report limitations in activity. Compared
to those who were eligible but refused, enrolled participants were less
likely to have high blood pressure and stroke and more likely to have
quit smoking and to perceive their health status as very good or
excellent.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE

MJ Cardiovascular Diseases C14 C14.0

MJ Epidemiologic Methods

MI Aged

MI Aged 80 and over

MI Cohort Studies

MI Female

MI Human

MI Male

MI Support U S Govt P H S

MI Age 19 and over

Item: 127

UI 94101170

AU Jacobsen SJ

AU Goldberg J

AU Cooper C

AU Lockwood SA

TI The association between water fluoridation and hip fracture among white
women and men aged 65 years and older. A national ecologic study.

SO Ann Epidemiol 1992 Sep;2(5):617-26

JT ANNALS OF EPIDEMIOLOGY
AD Medical College of Wisconsin, Milwaukee.
LA Eng
AB For the past 45 years, there has been a great deal of debate regarding the health issues surrounding the fluoridation of public water supplies. In order to assess the association between fluoridation and hip fracture, we identified 129 counties across the United States considered to be exposed to public water fluoridation and 194 counties without exposure. Data from the **Health Care Financing** Administration and the Department of Veterans Affairs were used to calculate the incidence of hip fracture among white persons, aged 65 years or older, in fluoridated and nonfluoridated counties. There was a small statistically significant positive association between fracture rates and fluoridation. The relative risk (95% confidence interval) of fracture in fluoridated counties compared to nonfluoridated counties was 1.08 (1.06 to 1.10) for women and 1.17 (1.13 to 1.22) for men. As comparisons were made at the grouped level, it may be inappropriate at this time to draw inferences at the individual level. The relationship observed at the county level needs to be duplicated at the individual level with more precise measures of fluoride exposure.

PT JOURNAL ARTICLE
MJ Fluoridation /Adverse Effects
MJ Hip Fractures /Etiology
MI Aged
MI Aged 80 and over
MI Female
MI Human
MI Male
MI Risk Factors
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI Age 19 and over

Item: 128

UI 94093056
AU Shekar SS
TI Health care coverage for Medicare: cost effectiveness of new technology.
SO J Laparoendosc Surg 1993 Aug;3(4):383-7
JT JOURNAL OF LAPAROENDOSCOPIC SURGERY
AD Office of Coverage and Eligibility Policy, **Health Care Financing** Administration, Baltimore, MD.
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Economics
MJ Technology Medical /Economics
MI Cholecystectomy Laparoscopic /Economics
MI Cost-Benefit Analysis
MI Human
MI Insurance Surgical /Economics
MI Surgery Laparoscopic /Economics

MI United States

Item: 129

UI 94087538

AU Kass NE

AU Mu~noz A

AU Chen B

AU Zucconi SL

AU Bing EG

TI Changes in employment, insurance, and income in relation to HIV status and disease progression. The Multicenter AIDS Cohort Study.

SO J Acquir Immune Defic Syndr 1994 Jan;7(1):86-91

JT JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES

AD Department of Health Policy and Management, Johns Hopkins School of Public Health, Baltimore, Maryland.

LA Eng

AB While patterns of **health care financing** for HIV have received considerable attention in the literature, the financial impact of disease on individuals living with HIV infection has been underexplored, particularly in relation to disease progression. Therefore, we sought to document changes in employment, income, and insurance coverage over time among HIV-negative, HIV-positive, and AIDS-diagnosed gay and bisexual men participating in the Multicenter AIDS Cohort Study (MACS) and to document measures of financial hardship. Persons with AIDS (PWAs) were 2.7 times more likely to lose full-time employment over a 6-month period than seronegative persons ($p < 0.05$), and loss of employment was strongly associated ($p < 0.001$) with both loss of private health insurance and loss of income. Twenty-seven percent of PWAs reported having financial difficulty meeting their basic expenses, compared with 10% of seronegative ($p < 0.001$), and 15% of PWAs, compared with only 9% of seronegative persons, said that, for financial reasons, they had not sought medical care that they thought they needed ($p = 0.028$). When 27% of PWAs in a cohort such as this report financial difficulty meeting their basic expenses, it is clear that the response of our public health and social welfare systems has not been adequate. Given that the problems experienced by most persons infected by HIV are considerably more severe than those experienced by MACS participants, the imperative for action is even greater.

PT JOURNAL ARTICLE

PT MULTICENTER STUDY

MJ Employment

MJ HIV Infections /Economics

MJ HIV 1

MJ Income

MJ Insurance Health

MI Acquired Immunodeficiency Syndrome /Economics

MI Adult

MI Bisexuality

MI Cohort Studies

MI Cross-Sectional Studies

MI Educational Status
MI Homosexuality
MI Human
MI HIV Seropositivity /Economics
MI Male
MI Multivariate Analysis
MI Prospective Studies
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI Time Factors
MI Age 19 and over

Item: 130

UI 94081555
AU Byrne C
AU Vernon P
AU Cohen JJ
TI Effect of age and diagnosis on survival of older patients beginning chronic dialysis [see comments]
SO JAMA 1994 Jan 5;271(1):34-6
JT JAMA
AD New York State Department of Health, Stony Brook.
LA Eng
AB OBJECTIVE--To assess the survival of elderly patients in the United States beginning chronic dialysis for end-stage renal disease caused by diabetes mellitus, hypertension, glomerulonephritis, polycystic kidney disease, and other causes. DESIGN--A secondary analysis of data obtained from the **Health Care Financing** Administration. PATIENTS--All Medicare end-stage renal disease patients 55 years of age or older (n = 95,394) who began chronic dialysis treatment in the US between 1982 and 1987. MAIN OUTCOME MEASURES--The 1-, 3-, and 5-year survival rates for each of six age strata and, within each strata, for each of the four most frequent causes of renal failure. RESULTS--Survival rates of dialysis patients fell precipitously, and much more rapidly for the study group than for the general population, as a function of advancing age. Older patients with diabetic nephropathy fared particularly badly, such that no patients with diabetic nephropathy aged 85 years or more survived 5 years. CONCLUSIONS--Mortality rates of patients older than 55 years beginning chronic dialysis treatment increased dramatically as age at initiation of dialysis increased. Clinically meaningful survival data should prove useful to persons making decisions about the initiation of chronic dialysis.
PT JOURNAL ARTICLE
MJ Hemodialysis /Statistics & Numerical Data
MJ Kidney Failure Chronic /Mortality
MJ Kidney Failure Chronic /Therapy
MJ Outcome Assessment Health Care
MI Age Factors
MI Aged

MI Aged 80 and over
MI Hemodialysis /Economics
MI Hemodialysis /Mortality
MI Human
MI Kidney Failure Chronic /Etiology
MI Medicare
MI Middle Age
MI New York /Epidemiology
MI Survival Rate
MI United States
MI Age 19 and over

Item: 131

UI 94077542
AU Harrop DE
TI Questioning the value of PROs: one more time.
SO Pa Med 1993 Oct;96(10):42
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Economics
MJ Peer Review Health Care
MI Cost Control
MI Human
MI Pennsylvania
MI United States
MI United States** Health Care Financing** Administration

Item: 132

UI 94063756
AU Levit KR
AU Lazenby HC
AU Cowan CA
AU Letsch SW
TI Health spending by state: new estimates for policy making.
SO Health Aff (Millwood) 1993 Fall;12(3):7-26
JT HEALTH AFFAIRS
LA Eng
AB A new data set from the **Health Care Financing** Administration gives estimates of state spending for hospital care, physician services, and retail purchases of prescription drugs, which together account for 70 percent of health expenditures nationwide. Analysis of these data, which are the first uniform state data to be produced for nearly ten years, shows considerable variation among states and among regions in health care spending. The New England and Mideast regions show the consistently highest spending levels for all three categories; the Southwest and Rocky Mountain regions spent the smallest amount (as much as 17 percent below the U.S. average).
PT JOURNAL ARTICLE
MJ Health Expenditures /Statistics & Numerical Data

MJ Health Policy /Economics
MJ State Health Plans /Economics
MI Costs and Cost Analysis
MI Data Collection
MI Health Care Reform
MI Health Expenditures /Trends
MI Policy Making
MI United States
MI United States** Health Care Financing** Administration

Item: 133

UI 94062359
AU Meehan TP
TI New developments at the Connecticut Peer Review Organization.
SO Conn Med 1993 Aug;57(8):533-5
JT CONNECTICUT MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Standards
MJ Professional Review Organizations /Trends
MI Connecticut
MI Delivery of Health Care /Standards
MI Delivery of Health Care /Trends
MI Female
MI Human
MI Male
MI Medicare /Trends
MI Professional Review Organizations /Organization & Administration
MI Quality Assurance Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 134

UI 94057795
AU Audet AM
AU Scott HD
TI The Uniform Clinical Data Set: an evaluation of the proposed national database for Medicare's quality review program.
SO Ann Intern Med 1993 Dec 15;119(12):1209-13
JT ANNALS OF INTERNAL MEDICINE
AD American College of Physicians, Philadelphia, PA.
LA Eng
AB The accuracy, reliability, and validity of the Medicare Peer Review Organization (PRO) review process have all been questioned. Evidence concerning the PRO program's effect on cost and quality of care remains lacking. The **Health Care Financing** Administration has thus committed itself to reform, and the Uniform Clinical Data Set (UCDS) has been proposed as the national database for Medicare's quality review program. The UCDS is an automated, computerized data set designed to standardize the evaluation of quality. It should allow an objective,

consistent, and efficient process for peer review, based on explicit decision criteria and on aggregated information about patterns of care and quality. But is this truly so? We review the existing evidence on the UCDS and compare it with the current PRO reviews of quality, concluding that although the UCDS can potentially improve the accuracy and the reliability of data abstraction and the validity of reviews, this remains to be shown. Preliminary data on the UCDS suggest that work is needed before it can meet appropriate expectations for a national database for quality assessments. We also propose a model for reviews of quality in which we show that reviews of care done in the context of internal quality improvement programs will differ in goals and intensity from reviews of care done at the national level. We suggest that the UCDS has a unique, but limited role--that of national surveillance of practice patterns. Detailed assessments of quality are more appropriately done at local or institutional levels.

PT JOURNAL ARTICLE
MJ Databases Factual /Standards
MJ Medicare /Standards
MJ Peer Review Health Care /Standards
MJ Professional Review Organizations
MI Automatic Data Processing /Standards
MI Data Collection /Standards
MI Evaluation Studies
MI Human
MI Physicians Practice Patterns
MI Pilot Projects
MI Quality of Health Care
MI United States

Item: 135

UI 94055316
TI WIPRO clarifies changes to quality review process [news]
SO Wis Med J 1993 Aug;92(8):479
JT WISCONSIN MEDICAL JOURNAL
LA Eng
PT NEWS
MJ Professional Review Organizations /Legislation & Jurisprudence
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MI Human
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Wisconsin

Item: 136

UI 94055314
TI New claim form rules from OCI [news]
SO Wis Med J 1993 Aug;92(8):476-7
JT WISCONSIN MEDICAL JOURNAL
LA Eng

PT NEWS
MJ Insurance Claim Reporting /Legislation & Jurisprudence
MI Human
MI United States
MI United States** Health Care Financing** Administration
MI Wisconsin

Item: 137

UI 94052862
AU Schmidt L
AU Weisner C
TI Developments in alcoholism treatment.
SO Recent Dev Alcohol 1993;11:369-96
JT RECENT DEVELOPMENTS IN ALCOHOLISM
AD Alcohol Research Group, University of California, Berkeley 94709.
LA Eng
AB Alcohol treatment systems expanded and diversified considerably over the past decade. This reflects adaptation to a variety of forces, including developments in national **health care financing** and policy, changes in other health care systems with which alcohol treatment had strong ties, the more diffuse effects of social movements and a "drying trend" in American public opinion, as well as agitation by advocacy and provider groups within the alcohol field. Drawing on national monitoring data, this chapter reviews developments at the levels of financing policy, organizations, client populations, and treatment modalities, documenting expansion in private sector alcohol treatment units, a growing emphasis on providing outpatient treatment, a merger between services for alcohol and drugs at the organizational and conceptual levels, increases in service delivery to coerced populations, as well as demographic change in alcohol treatment caseloads during the 1980s.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Alcoholism /Rehabilitation
MI Adult
MI Aged
MI Alcoholism /Economics
MI Alcoholism /Psychology
MI Ambulatory Care /Economics
MI Cost Control /Trends
MI Cost-Benefit Analysis
MI Female
MI Financing Government /Economics
MI Human
MI Male
MI Middle Age
MI Privatization /Economics
MI Substance Abuse Treatment Centers /Economics
MI Support U S Govt P H S

MI Treatment Outcome

Item: 138

UI 94050818

AU Voldish K

TI The new CLIA category: physician-performed microscopy.

SO N J Med 1993 Oct;90(10):769-70

JT NEW JERSEY MEDICINE

LA Eng

AB The newest additions to the Clinical Laboratory Improvement Amendment (CLIA)-88 regulations are in the physician's interest. It is hoped this trend will continue as the **Health Care Financing** Administration (HCFA) reviews physician comments on the regulations.

PT JOURNAL ARTICLE

MJ Laboratories /Legislation & Jurisprudence

MJ Microscopy

MJ Physicians

Item: 139

UI 94049271

AU Gerber GR

TI Michigan physicians doing a "good job" of utilizing Medicare's new E & M codes.

SO Mich Med 1993 Jun;92(6):41

JT MICHIGAN MEDICINE

LA Eng

PT JOURNAL ARTICLE

MJ Medicare

MJ Physicians Role

MI Human

MI Michigan

MI United States

MI United States** Health Care Financing** Administration

Item: 140

UI 94045541

AU Eberly AL Jr

TI Road to PRO contract fraught with twists and turns [editorial]

SO J Fla Med Assoc 1993 Sep;80(9):591-2

JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION

LA Eng

PT EDITORIAL

MJ Professional Review Organizations

MI Attitude of Health Personnel

MI Florida

MI Human

MI Interinstitutional Relations

MI Physicians

MI Professional Review Organizations /Legislation & Jurisprudence

MI Professional Review Organizations /Organization & Administration

MI Societies Medical /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 141

UI 94043983
AU Stern RS
AU Nelson C
TI The diminishing role of the dermatologist in the office-based care of cutaneous diseases.
SO J Am Acad Dermatol 1993 Nov;29(5 Pt 1):773-7
JT JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY
AD Department of Dermatology, Beth Israel Hospital, Harvard Medical School, Boston, MA 02215.
LA Eng
AB The number of physicians who provide ambulatory care for patients with skin diseases is rapidly increasing. Current and proposed changes in **health care financing** may limit direct access to dermatologists. We provide recent data on volume of visits for cutaneous diagnoses, including the types of medical practitioners who provided these ambulatory services, and compare these data with earlier surveys that span 15 years. In 1989, dermatologists saw 41% of the 51.6 million persons with cutaneous diagnoses. The number of visits per dermatologist declined significantly from 1974 to 1989 ($p < 0.05$). Visits to dermatologists were significantly more likely to be reimbursed by Blue Cross/Blue Shield or self-pay than visits to other physicians for skin problems. From 1974 to 1989, the demand for dermatologic services from dermatologists has not increased as rapidly as the supply of dermatologists. Our data also suggest that restrictions on direct access to dermatologists or changes in reimbursement may substantially decrease the demand for services provided by dermatologists.
PT JOURNAL ARTICLE
MJ Ambulatory Care /Statistics & Numerical Data
MJ Office Visits /Statistics & Numerical Data
MJ Skin Diseases /Epidemiology
MI Adolescence
MI Adult
MI Ambulatory Care /Economics
MI Blue Cross /Economics
MI Comparative Study
MI Female
MI Health Maintenance Organizations /Economics
MI Human
MI Male
MI Middle Age
MI Office Visits /Economics
MI Skin Diseases /Diagnosis

Item: 142

UI 94042129
AU Harris MD
TI The peer review organization process revisited.
SO Home Healthc Nurse 1993 Sep-Oct;11(5):67-8
JT HOME HEALTHCARE NURSE
LA Eng
AB The outcomes of patient care are of increasing importance in the 1990s from a quality of patient care perspective. Most of the review processes that HHAs are subjected to, including the Medicare certification survey, the accreditation process by the Joint Commission on the Accreditation of Healthcare Organizations and the Community Health Accreditation Program, are focused toward patient outcomes. Also included is the PRO process that addresses the quality of care issue when home care was provided as one of the intervening care services if a patient is readmitted to an acute care facility within 31 days of discharge, HHA standards as well as professional nursing standards. There is no question that the care rendered and the complete and accurate documentation by home healthcare nurses contribute to the minimal number of confirmed quality of care problems that have been identified in HHAs. We would appreciate findings reported in other states. Please share published information on the PRO activities in your state in care of Home Healthcare Nurse. We look forward to hearing from you.
PT JOURNAL ARTICLE
MJ Accreditation
MJ Home Care Services
MJ Peer Review Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 143

UI 94035336
AU Hudson T
TI 'Revolutionary' aspect of regulations gives HMOs more latitude.
SO Hosp Health Netw 1993 Nov 5;67(21):54
JT HOSPITALS AND HEALTH NETWORKS
LA Eng
PT JOURNAL ARTICLE
MJ Health Maintenance Organizations /Legislation & Jurisprudence
MJ Medicare /Legislation & Jurisprudence
MI Health Maintenance Organizations /Organization & Administration
MI United States
MI United States** Health Care Financing** Administration

Item: 144

UI 94033074
AU Newcomb PA
AU Storer BE
AU Marcus PM
TI Cancer of the large bowel in women in relation to alcohol consumption: a

case-control study in Wisconsin (United States).
SO Cancer Causes Control 1993 Sep;4(5):405-11
JT CANCER CAUSES AND CONTROL
AD University of Wisconsin-Madison Comprehensive Cancer Center 53706.
LA Eng
AB Age-specific consumption of beer, wine, and liquor was ascertained by telephone interview from 779 women in Wisconsin (United States) with newly reported diagnosis of carcinoma of the colon and rectum. Population controls (n = 2,315) interviewed for this case-control study were randomly selected from Wisconsin driver's license files and **Health Care Financing** Administration files. Overall, there was a modest indication that high levels of alcohol consumption (11 or more drinks per week) were associated with increased risk of large bowel cancer (adjusted odds ratio [OR] = 1.47, 95 percent confidence interval [CI] = 1.0-2.22). In site-specific analyses, only rectal cancer demonstrated a significant linear trend (P = 0.01) with increasing consumption. Significant beverage-specific effects were observed for liquor and colon cancer: the adjusted ORs for 1-2, 3-5, and 6+ drinks per week were 1.12, 1.68, 1.51, respectively (P trend = 0.01). Beer was associated significantly with rectal cancer: the adjusted ORs for 1-2, 3-5, 6-10, and 11+ drinks per week were 1.25, 1.25, 1.58, 2.42, respectively (P trend = 0.02). Wine consumption was associated inversely with these cancers. These relationships appeared to be consistent for recent, past, and total lifetime consumption, and were not attributable to differences in dietary habits.

PT JOURNAL ARTICLE
MJ Alcohol Drinking /Epidemiology
MJ Colonic Neoplasms /Epidemiology
MJ Rectal Neoplasms /Epidemiology
MI Adult
MI Age Factors
MI Aged
MI Alcohol Ethyl /Administration & Dosage
MI Alcoholic Beverages /Statistics & Numerical Data
MI Beer /Statistics & Numerical Data
MI Body Constitution
MI Case-Control Studies
MI Colonic Neoplasms /Genetics
MI Female
MI Human
MI Middle Age
MI Odds Ratio
MI Rectal Neoplasms /Genetics
MI Risk Factors
MI Sigmoidoscopy /Statistics & Numerical Data
MI Support, Non-U.S. Gov't
MI Wine /Statistics & Numerical Data
MI Wisconsin /Epidemiology

UI 94030417
 AU Noss E
 TI Legislative news: DMERC surgical dressing update.
 SO Ostomy Wound Manage 1993 Jul-Aug;39(6):16-7
 JT OSTOMY/WOUND MANAGEMENT
 LA Eng
 PT JOURNAL ARTICLE
 MJ Bandages
 MJ Medicare Part B /Legislation & Jurisprudence
 MJ Reimbursement Mechanisms /Legislation & Jurisprudence
 MJ United States** Health Care Financing** Administration
 MI Bandages /Economics
 MI Human
 MI United States

Item: 146

UI 94029522
 AU Inoue K
 TI Surgery in Japan [see comments]
 SO Arch Surg 1993 Oct;128(10):1093-8
 JT ARCHIVES OF SURGERY
 AD First Department of Surgery, Faculty of Medicine, Kyoto University, Japan.
 LA Eng
 AB Prominent progress has been made in the field of surgery in Japan following the examples of Germany and the United States before and after World War II, respectively. At present, surgery in Japan seems to have reached almost top levels in the field of research as well as medical care. Although the educational system and medical training in the field of surgery in Japan have followed those methods of western countries, these methods are slightly modified at the present time. In this report, I give an overview of the current status of surgery in Japan, from the viewpoints of the postgraduate educational system, manpower, **health care financing**, and research development. I also refer to characteristics of surgery in Japan and recent topics.
 PT JOURNAL ARTICLE
 MJ Surgery /Organization & Administration
 MI Costs and Cost Analysis
 MI Education Medical Graduate
 MI Human
 MI Insurance Health
 MI Japan
 MI Neoplasms /Surgery C4 C4.0
 MI Organ Transplantation
 MI Research
 MI Surgery /Education

Item: 147

UI 94029219
 AU Reemtsma K

AU Gelijns AC
AU Sisk JE
AU Arons RR
AU Boozang PM
AU Berland GK
AU Evans CM
AU Smith CR
TI Supporting future surgical innovation. Lung transplantation as a case study.
SO Ann Surg 1993 Oct;218(4):465-73; discussion 474-5
JT ANNALS OF SURGERY
AD Habif Center for Surgical Studies, Columbia University, College of Physicians and Surgeons, New York, NY.
LA Eng
AB OBJECTIVE: Using lung transplantation as a case study, this article addressed the problem of supporting innovative clinical surgery in an era of increasing pressures for cost containment. SUMMARY BACKGROUND DATA: After sporadic attempts at lung transplantation during the 1960s and 1970s, its clinical development began in earnest during the early 1980s. As a result of a wide range of incremental advances, the results have improved significantly. The ****Health Care Financing**** Administration, however, has not yet issued a national policy covering lung transplants and has left the coverage decision to the discretion of its regional contractors. METHODS: The authors surveyed the major commercial insurers, the Blue Cross Blue Shield Association, and a sample of Medicare intermediaries to evaluate the coverage of lung transplantation. They also interviewed the National Heart, Lung, and Blood Institute and industrial firms about their support for clinical research. RESULTS: Government and industry funding were limited, and the development and assessment of lung transplants have been financed predominantly by academic institutions through cross-subsidization from patient care and teaching funds. The major private payers and Blue Cross Blue Shield decided to cover this procedure in the early 1990s. Coverage decisions by Medicare intermediaries, however, revealed considerable variability. Moreover, the absence of a specific diagnosis-related group for lung transplants had considerable consequences for institutions in all-payer states, in which payments appeared to be considerably lower than the mean costs of a transplant procedure (about \$110,000). CONCLUSIONS: This analysis indicated that there was a growing disparity between the increasing demand for outcomes data about new procedures and the limited resources available for supporting the development and assessment of new operations. If this disparity is not addressed, the rate of surgical innovation may be jeopardized, and timely outcomes data may not be acquired. It was concluded that provisional coverage within a predetermined research protocol may be a promising mechanism to remedy this situation, providing timely assessment of new procedures before widespread application.
PT JOURNAL ARTICLE
MJ Insurance Surgical

MJ Lung Transplantation /Economics
MJ Research Support
MJ Surgery
MI Diffusion of Innovation
MI Health Care Costs
MI Heart-Lung Transplantation /Economics
MI Heart-Lung Transplantation /Trends
MI Human
MI Lung Transplantation /Trends
MI Outcome Assessment Health Care /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 148

UI 94027034
AU Abraham PA
TI Health care payment policies: lessons from erythropoietin [editorial; comment]
SO Am J Kidney Dis 1993 Oct;22(4):596-7
JT AMERICAN JOURNAL OF KIDNEY DISEASES
LA Eng
PT COMMENT
PT EDITORIAL
MJ Erythropoietin /Economics
MJ Medicare /Economics
MI Drug Utilization /Economics
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 149

UI 94025056
AU Kilpe VE
AU Krakauer H
AU Wren RE
TI An analysis of liver transplant experience from 37 transplant centers as reported to Medicare.
SO Transplantation 1993 Sep;56(3):554-61
JT TRANSPLANTATION
AD Bureau of Policy Development, **Health Care Financing** Administration, Baltimore, Maryland 21207.
LA Eng
AB Analysis of 5180 liver transplant cases from 37 liver transplant centers in the United States (1982-1991) shows an overall one-year survival rate of 79.4 +/- 0.6% and a five-year survival rate of 69.2 +/- 0.9%. There was marked improvement in the one-year survival rate after liver transplantation from 36.0 +/- 9.6% in 1982 to 85.0 +/- 1.8% in 1991. One-year survival rates after liver transplantation for postnecrotic cirrhosis, primary biliary cirrhosis, alcoholic cirrhosis, primary sclerosing cholangitis, alpha-1-antitrypsin deficiency, and Wilson's

disease ranged from 78.4 +/- 1.0% to 84.2 +/- 1.5% and five-year survival rates from 68.6 +/- 3.8% to 79.2 +/- 5.3%. Survival rates after liver transplantation for hemochromatosis were poor--a one-year survival rate of 53.8 +/- 6.8% and a five year survival rate of 43.1 +/- 11%. One- and five-year survival rates for the 0-13 years age group were 74.6 +/- 2.8% and 66.7 +/- 3.4%; for the 14-37 years age group, 83.3 +/- 1.2% and 73.8 +/- 1.8%; for the 38-54 years age group, 79.6 +/- 0.8% and 69.7 +/- 1.3%; for the 55-63 years age group, 76.0 +/- 1.4% and 63.0 +/- 3.1%; and for the 64-77 years age group, 76.5 +/- 3.0% and 65.4 +/- 4.6%.

PT JOURNAL ARTICLE
PT MULTICENTER STUDY
MJ Liver Transplantation /Immunology
MI Adolescence
MI Adult
MI Aged
MI Child
MI Child Preschool
MI Female
MI Graft Survival
MI Human
MI Infant
MI Infant Newborn
MI Liver Transplantation /Mortality
MI Male
MI Medicare
MI Middle Age
MI Survival Analysis
MI United States

Item: 150

UI 94024892
AU Brickell B
TI Performance standards and performance monitoring.
SO Top Health Care Financ 1993 Fall;20(1):80-91
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Chicago, IL.
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Standards
MJ Management Audit
MJ Patient Credit and Collection /Standards
MI Efficiency Organizational
MI Evaluation Studies
MI Hospital Information Systems /Standards
MI United States

Item: 151

UI 94024891
AU Bonner-Makovsky D

TI Selecting and monitoring external collection agencies.
SO Top Health Care Financ 1993 Fall;20(1):71-9
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Washington, DC.
LA Eng
PT JOURNAL ARTICLE
MJ Contract Services /Standards
MJ Financial Management Hospital /Methods
MJ Management Audit
MJ Patient Credit and Collection /Methods
MI Competitive Bidding
MI Decision Making Organizational
MI Planning Techniques
MI United States

Item: 152

UI 94024890
AU Ferko P
TI Managing bad debt and charity care accounts.
SO Top Health Care Financ 1993 Fall;20(1):66-70
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Baltimore, MD.
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Methods
MJ Medical Indigency /Economics
MJ Patient Credit and Collection /Methods
MJ Uncompensated Care /Economics
MI Accounting
MI Charities /Economics
MI Data Collection
MI Patient Admission /Economics
MI Societies
MI United States

Item: 153

UI 94024889
AU Fracas M
TI Managing installment payment arrangements.
SO Top Health Care Financ 1993 Fall;20(1):61-5
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Philadelphia, PA.
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Methods
MJ Financing Personal /Methods
MJ Patient Credit and Collection /Methods
MI United States

Item: 154

UI 94024888
AU Zakoworotny C
TI Strategies to optimize DRG reimbursement.
SO Top Health Care Financ 1993 Fall;20(1):53-60
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Cleveland, OH.
LA Eng
PT JOURNAL ARTICLE
MJ Diagnosis-Related Groups /Economics
MJ Financial Management Hospital /Methods
MJ Insurance Health Reimbursement
MJ Medical Records Department Hospital /Organization & Administration
MI Abstracting and Indexing
MI Diagnosis-Related Groups /Standards
MI Medical Records /Classification
MI Medical Records /Standards
MI Medical Records Department Hospital /Economics
MI Medicare /Economics
MI United States

Item: 155

UI 94024887
AU Tarplee S
AU Cassidy B
TI Medical record department's leadership role in receivables management.
SO Top Health Care Financ 1993 Fall;20(1):41-52
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Indianapolis, IN.
LA Eng
PT JOURNAL ARTICLE
MJ Accounts Payable and Receivable
MJ Medical Records Department Hospital /Organization & Administration
MI Abstracting and Indexing
MI Diagnosis-Related Groups /Classification
MI Diagnosis-Related Groups /Economics
MI Drugs
MI Hospital Information Systems /Organization & Administration
MI Insurance Claim Reporting
MI Leadership
MI Medical Records /Classification
MI Medical Records /Standards
MI Medical Records Department Hospital /Economics
MI Physicians
MI Research Design
MI United States

Item: 156

UI 94024886
AU Maslia D
AU Boggs R

TI Using automation to control receivables: how computers can improve the revenue cycle.
SO Top Health Care Financ 1993 Fall;20(1):32-40
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Atlanta, GA.
LA Eng
PT JOURNAL ARTICLE
MJ Accounts Payable and Receivable
MJ Automatic Data Processing
MJ Financial Management Hospital /Methods
MI Automatic Data Processing /Trends
MI Financial Management Hospital /Trends
MI Forecasting
MI Hospital Information Systems /Organization & Administration
MI Insurance Claim Reporting
MI Medical Records
MI Office Management
MI Patient Credit and Collection /Organization & Administration
MI Patient Discharge
MI Personnel Hospital /Education
MI United States

Item: 157

UI 94024885
AU Senters EM
TI Admitting and registration.
SO Top Health Care Financ 1993 Fall;20(1):25-31
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Atlanta, GA.
LA Eng
PT JOURNAL ARTICLE
MJ Admitting Department Hospital /Organization & Administration
MJ Patient Admission /Economics
MJ Patient Credit and Collection /Methods
MI Admitting Department Hospital /Economics
MI Forms and Records Control
MI Hospital Information Systems /Organization & Administration
MI Income
MI Models Organizational
MI United States

Item: 158

UI 94024884
AU Senters EM
TI Preadmission and preregistration.
SO Top Health Care Financ 1993 Fall;20(1):17-24
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Atlanta, GA.
LA Eng
PT JOURNAL ARTICLE

MJ Admitting Department Hospital /Organization & Administration
MJ Patient Admission /Economics
MJ Patient Credit and Collection /Methods
MI Admitting Department Hospital /Economics
MI Ancillary Services Hospital /Organization & Administration
MI Data Collection
MI Hospital Records
MI Income
MI Insurance Hospitalization
MI Models Organizational
MI Physicians /Economics
MI United States

Item: 159

UI 94024883
AU Kenyon WW
TI Analysis of the collection cycle.
SO Top Health Care Financ 1993 Fall;20(1):10-6
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Boston, MA.
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Methods
MJ Patient Credit and Collection /Organization & Administration
MI Counseling
MI Financing Personal
MI Models Organizational
MI Patient Admission
MI Systems Analysis
MI United States

Item: 160

UI 94024882
AU Funsten RS
TI Improving accounts receivable: an introduction to the key functions.
SO Top Health Care Financ 1993 Fall;20(1):1-9
JT TOPICS IN **HEALTH CARE FINANCING**
AD Ernst & Young, Atlanta, GA.
LA Eng
PT JOURNAL ARTICLE
MJ Accounts Payable and Receivable
MJ Financial Management Hospital /Methods
MI Hospital Information Systems /Organization & Administration
MI Income
MI Models Organizational
MI Patient Admission
MI Patient Credit and Collection /Organization & Administration
MI United States

Item: 161

UI 94018055
 AU Riley G
 AU Lubitz J
 AU Gornick M
 AU Mentnech R
 AU Eggers P
 AU McBean M
 TI Medicare beneficiaries: adverse outcomes after hospitalization for eight procedures.
 SO Med Care 1993 Oct;31(10):921-49
 JT MEDICAL CARE
 AD Office of Research and Demonstrations, **Health Care Financing** Administration, Baltimore, MD.
 LA Eng
 AB Rehospitalization following surgery is widely recognized as an important outcome measure. The purpose of this study was to identify rehospitalizations for adverse events following 8 procedures, using diagnosis and procedure codes contained in Medicare claims files. Adverse events were broadly defined as: 1) complications; 2) failure of the procedure to achieve its therapeutic goal; and 3) untoward events associated with the natural history of the disease being treated with the procedure. Expert panels identified specific diagnosis and procedure codes that might indicate an adverse event if they appeared on the Medicare record of a rehospitalization. Among patients undergoing percutaneous transluminal coronary angioplasty, almost 36% were rehospitalized for an adverse event within a year of surgery; among patients undergoing coronary artery bypass graft surgery, 20% were rehospitalized for an adverse event. Following the other 6 procedures (cholecystectomy, partial excision of the large intestine, total knee replacement, total hip replacement, replacement of the head of the femur, and reduction of fracture of the femur) between 4% and 9% of patients were rehospitalized for an adverse event. Findings from this exploratory study indicate that rehospitalizations for adverse events appear to be a useful outcome measure for the cardiac procedures; they appear to be less useful for the other procedures, at least at the individual hospital or small area level, because of their relative rarity. Future studies should investigate procedures associated with more frequent rehospitalizations, and medical admissions, which often tend to be associated with higher rehospitalization levels.
 PT JOURNAL ARTICLE
 MJ Medicare /Statistics & Numerical Data
 MJ Outcome and Process Assessment Health Care /Statistics & Numerical Data
 MJ Patient Readmission /Statistics & Numerical Data
 MJ Postoperative Complications /Epidemiology
 MI Aged
 MI Hospital Mortality
 MI Human
 MI Insurance Claim Review /Statistics & Numerical Data
 MI Length of Stay /Statistics & Numerical Data
 MI Medicare /Utilization

MI Postoperative Complications /Mortality
MI Treatment Failure
MI United States /Epidemiology

Item: 162

UI 94016997
AU Hertzner NR
AU Noether MG
TI The resource-based relative value scale in vascular surgery. A report of the activities of the Joint Council of the Society for Vascular Surgery and the North American Chapter of the International Society for Cardiovascular Surgery in Medicare reimbursement reform [see comments]
SO J Vasc Surg 1993 Oct;18(4):692-701
JT JOURNAL OF VASCULAR SURGERY
AD Joint Council of the Society for Vascular Surgery and International Society for Cardiovascular Surgery, North American Chapter, and Abt Associates Inc., Cambridge, Mass.
LA Eng
PT JOURNAL ARTICLE
MJ Relative Value Scales
MJ Vascular Surgery /Economics
MI Fees Medical
MI Health Policy
MI Heart Surgery /Economics
MI Human
MI Malpractice /Economics
MI Medicare /Economics
MI Medicare /Legislation & Jurisprudence
MI North America
MI Practice Management Medical /Economics
MI Reimbursement Mechanisms /Legislation & Jurisprudence
MI Societies Medical
MI United States
MI United States** Health Care Financing** Administration /Economics
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Work

Item: 163

UI 94014962
AU Brouillette JN
TI Hassle free zone.
SO J Fla Med Assoc 1993 Aug;80(8):555-6
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
LA Eng
PT JOURNAL ARTICLE
MJ Medically Underserved Area
MJ Physicians /Supply & Distribution
MJ Professional Practice
MI Government

MI Human
MI Joint Commission on Accreditation of Healthcare Organizations
MI Malpractice /Legislation & Jurisprudence
MI Medicare
MI Professional Practice /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 164

UI 94014849
AU Rozewski CM
TI A method for selecting data subsets from large medical data bases.
SO J Med Syst 1993 Apr;17(2):103-15
JT JOURNAL OF MEDICAL SYSTEMS
AD Health Policy Institute, Medical College of Wisconsin, Milwaukee 53226.
LA Eng
AB Because of the exponential increase in health care expenditures, attention has been drawn to the cost and effectiveness of health care delivered. The use of electronic data bases as a means for assessing health care effectiveness has been advocated as powerful computer systems have become commonplace. The need to work efficiently with extremely large data bases presents difficult challenges to researchers who wish to focus on specific aspects of the data. This paper describes a computer program written to facilitate the analysis of large medical data sets by providing a straightforward way to specify and select data subsets from the aggregate data base.
PT JOURNAL ARTICLE
MJ Database Management Systems
MJ Databases Factual
MI Data Display
MI Forms and Records Control
MI Human
MI Medical Records
MI Pilot Projects
MI Software Design
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration
MI User-Computer Interface

Item: 165

UI 94012396
AU Golden WE
TI New approaches [editorial]
SO J Ark Med Soc 1993 Jul;90(2):60-1
JT JOURNAL OF THE ARKANSAS MEDICAL SOCIETY
LA Eng
PT EDITORIAL
MJ Quality Assurance Health Care
MJ United States** Health Care Financing** Administration

MI Arkansas
MI Human
MI Professional Review Organizations
MI United States

Item: 166

UI 94011276
AU McCue MJ
AU Clement JP
AU Hoerger TJ
TI The association of ownership and system affiliation with the financial performance of inpatient psychiatric hospitals.
SO Inquiry 1993 Fall;30(3):306-17
JT INQUIRY
AD Department of Health Administration, Virginia Commonwealth University, Richmond 23298-0203.
LA Eng
AB Using a pooled, cross-sectional time-series analysis, this study examines the relationship of financial performance of short-term, inpatient psychiatric hospitals to ownership and system affiliation. After controlling for market variables, case mix, the number of services, and bed size, the results indicate that for-profit psychiatric hospitals had higher revenues per adjusted discharge, higher expenses per adjusted discharge, and higher profitability compared to not-for-profit hospitals. System affiliated psychiatric facilities had lower revenues per adjusted discharge, lower expenses per adjusted discharge, and lower profitability than freestanding facilities.
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Statistics & Numerical Data
MJ Hospitals Psychiatric /Economics
MJ Organizational Affiliation /Economics
MJ Ownership /Economics
MI Comparative Study
MI Costs and Cost Analysis
MI Diagnosis-Related Groups /Economics
MI Diagnosis-Related Groups /Statistics & Numerical Data
MI Hospital Bed Capacity
MI Hospitals Proprietary /Economics
MI Hospitals Proprietary /Statistics & Numerical Data
MI Hospitals Psychiatric /Statistics & Numerical Data
MI Hospitals Voluntary /Economics
MI Hospitals Voluntary /Statistics & Numerical Data
MI Human
MI Income /Statistics & Numerical Data
MI Inpatients
MI Organizational Affiliation /Statistics & Numerical Data
MI Ownership /Statistics & Numerical Data
MI United States
MI United States** Health Care Financing** Administration

Item: 167

UI 94000130

AU Whitcomb ME

AU Cleverly WO

TI Financial performance of academic medical center hospitals.

SO Acad Med 1993 Oct;68(10):729-31

JT ACADEMIC MEDICINE

AD Program for Health Policy and Health Services Research, Ohio State University, Columbus 43210.

LA Eng

AB In its 1990 report to the U.S. Congress and to the Secretary of Health and Human Services, the Council on Graduate Medical Education noted that the financial status of teaching hospitals, as measured by trends in profit margins, had deteriorated during the years 1985-1988, and that major teaching hospitals had the lowest margins in the hospital industry. To gain insight into the financial viability of major teaching hospitals, the authors updated the analysis of the financial status of these hospitals and further analyzed their financial performance. They identified academic medical center hospitals using criteria established by the Association of American Medical Colleges' Council on Teaching Hospitals; accessed financial performance data on these institutions from the **Health Care Financing** Administration's prospective payment system minimum-data sets for the years 1987-1991; evaluated the financial performance of these institutions for the five-year period by calculating their total margin, return on equity, and financial leverage; and determined the percentage of Medicaid discharges for each year. The analyses show that academic medical center hospitals had stabilized their short-term financial performance in recent years. Nevertheless, their financial position is not strong. Their return on equity and debt financing percentages suggest that they will be forced to reduce their future rate of investment in new plant and equipment. Further, their overall financial performance is threatened by the growing percentage of Medicaid discharges. These observations raise serious concerns about the financial viability of these institutions in the face of continued changes in the financing of hospital services.

PT JOURNAL ARTICLE

MJ Academic Medical Centers /Economics

MJ Hospitals Teaching /Economics

MI Academic Medical Centers /Trends

MI Comparative Study

MI Hospitals Teaching /Trends

MI Public Policy

MI United States

Item: 168

UI 93192758

AU Lo A

AU Woodward A

TI An evaluation of freestanding alcoholism treatment for Medicare

recipients.

SO Addiction 1993 Jan;88(1):53-68

JT ADDICTION

AD Substance Abuse and Mental Health Services Administration, US Public Health Service, Rockville, Maryland.

LA Eng

AB The **Health Care Financing** Administration (HCFA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) conducted a demonstration between 1982 and 1985 to test the feasibility of providing payments for alcoholism treatment services to Medicare and Medicaid recipients in specially selected freestanding facilities. This study of the Medicare part of the demonstration answers two questions: do freestanding facilities save money for Medicare and do their patients have lower health care utilization following initiation of treatment than patients treated in hospital-based facilities? The statistical methodology is a logit and cluster approach. The analysis begins with a logistic regression model to predict the probability of patients seeking alcoholism treatment in either the demonstration (freestanding facility) or hospital-based cohort. The statistically significant variables from logit analysis are then used to form clusters. The health expenditures of freestanding and hospital patients are compared within homogeneous clusters. This study shows that the number of admissions, the average length of stay, and the average monthly health expenditures following the start of treatment are lower for the group treated in the freestanding facilities. The conclusion is that for some persons with alcohol problems, treatment in freestanding facilities is less costly and leads to lower subsequent health care utilization than treatment in hospitals.

PT JOURNAL ARTICLE

MJ Alcoholism /Rehabilitation

MJ Ambulatory Care Facilities /Economics

MJ Medicare /Economics

MJ Substance Abuse Treatment Centers /Economics

MI Adult

MI Aged

MI Alcoholism /Economics

MI Cost-Benefit Analysis

MI Female

MI Human

MI Male

MI Middle Age

MI Outcome and Process Assessment Health Care

MI United States

MI United States** Health Care Financing** Administration

Item: 169

UI 93177050

AU Tokars JI

AU Alter MJ

AU Favero MS

AU Moyer LA
AU Bland LA
TI National surveillance of hemodialysis associated diseases in the United States, 1990.
SO ASAIIO J 1993 Jan-Mar;39(1):71-80
JT ASAIIO JOURNAL
AD Investigation and Prevention Branch, Centers for Disease Control, Atlanta, GA 30333.
LA Eng
AB To determine trends in several hemodialysis associated diseases and practices, the Centers for Disease Control (CDC), in collaboration with the **Health Care Financing** Administration (HCFA), performed a mail survey of chronic hemodialysis centers in the United States in 1990. Of 1,995 centers surveyed, 1,882 (94%) representing 140,608 patients and 36,907 staff members responded. As in recent years, the 1990 survey found that certain hemodialysis practices are increasing in frequency, including treatment of water with reverse osmosis and deionizer units; use of bicarbonate dialysate and high-flux dialysis; and reuse of disposable dialyzers (in 1990, 70% of centers reused dialyzers). Hepatitis B surface antigen (HBsAg) was present at low frequency in patients (incidence, 0.2%; prevalence, 1.2%) and staff (incidence, 0.04%; prevalence, 0.3%). Antibody to hepatitis B surface antigen was present in 20% of patients and 58% of staff, and was significantly related to levels of hepatitis B vaccine coverage. Pyrogenic reactions in the absence of septicemia were reported by 20% of centers and were associated with use of high-flux dialyzer membranes and reuse of dialyzers (particularly in centers where the maximum number of reuses was 40 or more). Septicemia among hemodialysis patients was reported by 49% of centers. Twenty-six percent of centers reported providing hemodialysis for patients infected with human immunodeficiency virus (HIV), and 1.1% of dialyzed patients had known HIV infection.

PT JOURNAL ARTICLE
MJ Disposable Equipment /Utilization
MJ Hemodialysis /Adverse Effects
MJ Hemodialysis Units Hospital /Statistics & Numerical Data
MJ Hepatitis B /Epidemiology
MI Ambulatory Care Facilities /Statistics & Numerical Data
MI Centers for Disease Control and Prevention U S
MI Hemodialysis /Instrumentation
MI Hemodialysis /Statistics & Numerical Data
MI Hepatitis B /Etiology
MI Hepatitis B Vaccines
MI Hepatitis C /Epidemiology
MI Hepatitis C /Etiology
MI Human
MI HIV Infections /Epidemiology
MI HIV Infections /Etiology
MI Occupational Exposure /Statistics & Numerical Data
MI Population Surveillance
MI Septicemia /Epidemiology

MI United States /Epidemiology
MI United States** Health Care Financing** Administration

Item: 170

UI 92371158
AU Wetterhall SF
AU Olson DR
AU DeStefano F
AU Stevenson JM
AU Ford ES
AU German RR
AU Will JC
AU Newman JM
AU Sepe SJ
AU Vinicor F

TI Trends in diabetes and diabetic complications, 1980-1987.

SO Diabetes Care 1992 Aug;15(8):960-7

JT DIABETES CARE

AD Division of Diabetes Translation, Centers for Disease Control, Atlanta, Georgia 30333.

LA Eng

AB OBJECTIVE--Although diabetes is a major source of morbidity and mortality in the United States, only recently has a unified national surveillance system begun to monitor trends in diabetes and diabetic complications. RESEARCH DESIGN AND METHODS--We established a diabetes surveillance system using data for 1980-1987 from vital records, the National Health Interview Survey, the National Hospital Discharge Survey, and the **Health Care Financing** Administration's records to examine trends in the prevalence and incidence of diabetes, diabetes mortality, hospitalizations, and diabetic complications. RESULTS--From 1980 through 1987, the number of individuals known to have diabetes increased by 1 million--to 6.82 million. Age-standardized prevalence for diabetes increased 9% during this period, from 25.4 to 27.6/1000 U.S. residents ($P = 0.03$). The incidence of diabetes increased among women ($P = 0.003$), particularly among those greater than 65 yr old ($P = 0.02$). Age-standardized mortality rates (for diabetes as either an underlying or contributing cause) per 100,000 individuals with diabetes declined 12%, from 2350 to 2066. Annual mortality rates from stroke (as an underlying cause and diabetes as a contributing cause) and diabetic ketoacidosis declined 29% ($P = 0.003$) and 22% (P less than 0.001), respectively. During these 8 yr, hospitalization rates for major CVD and stroke (as the primary diagnoses and diabetes as a secondary diagnosis) increased 34% ($P = 0.006$) and 38% ($P = 0.01$), respectively. Also during this period, hospitalization rates increased 21% for diabetic ketoacidosis ($P = 0.01$) and 29% for lower-extremity amputations ($P = 0.06$). From 1982 through 1986, treatment for end-stage renal disease related to diabetes increased greater than 10% each year (P less than 0.001). The prevalence of diagnosed diabetes was nearly twice as high in blacks as in whites ($P = 0.04$). Blacks also had increased rates of lower-extremity amputation ($P = 0.02$), diabetic ketoacidosis (P less

than 0.001), and end-stage renal disease ($P = 0.01$).

CONCLUSIONS--Diabetes surveillance data will be useful in planning, targeting, and evaluating public health efforts designed to prevent and control diabetes and its complications.

PT JOURNAL ARTICLE
MJ Diabetes Mellitus /Epidemiology
MJ Diabetic Angiopathies /Epidemiology
MJ Diabetic Ketoacidosis /Epidemiology
MJ Diabetic Nephropathies /Epidemiology
MI Amputation
MI Centers for Disease Control and Prevention U S
MI Diabetes Mellitus /Mortality
MI Diabetic Angiopathies /Mortality
MI Diabetic Ketoacidosis /Mortality
MI Diabetic Nephropathies /Mortality
MI Forecasting
MI Government Agencies
MI Hospitalization
MI Human
MI Incidence
MI Kidney Failure Chronic /Epidemiology
MI Kidney Failure Chronic /Mortality
MI Morbidity
MI Prevalence
MI United States

Item: 171

UI 92290652
AU Miller NA
TI An evaluation of substance misuse treatment providers used by an employee assistance program.
SO Int J Addict 1992 May;27(5):533-59
JT INTERNATIONAL JOURNAL OF THE ADDICTIONS
AD Office of Research and Demonstrations, **Health Care Financing** Administration, Baltimore, Maryland 21207.
LA Eng
AB Structural measures of access, continuity, and quality of substance misuse treatment services were compared in 30 fee-for-service (FFS) facilities and nine health maintenance organizations (HMOs). Probit models related effects of the provider system (FFS or HMO) and the system's structural characteristics to 243 employees' access to and outcomes from treatment. Access was decreased in Independent Practice Association (IPA)/network HMOs and in all facilities which did not employ an addictionologist or provide coordinated treatment services. When bivariate correlations were examined, both use of copayments and imposing limits to the levels of treatment covered were negatively related to access, while a facility's provision of ongoing professional development was positively associated with access. These correlations did not remain significant in the multivariate probits. Receiving treatment in a staff model HMO and facing limits to the levels of

treatment covered were negatively associated with attaining sufficient progress, while receiving treatment in a facility which provided ongoing professional development was positively related to progress: these effects did not remain significant in multivariate analyses.

Implications for employee assistance program (EAP) staff in their role as case managers and for EAP staff and employers in their shared role as purchasers of treatment are discussed.

PT JOURNAL ARTICLE
MJ Health Maintenance Organizations /Standards
MJ Occupational Health Services /Standards
MJ Substance Abuse /Therapy
MJ Substance Abuse Treatment Centers /Standards
MI Adult
MI Attitude to Health
MI Comparative Study
MI Delivery of Health Care /Economics
MI Employment
MI Female
MI Health Maintenance Organizations /Economics
MI Health Maintenance Organizations /Manpower
MI Health Personnel /Standards
MI Health Services Accessibility
MI Human
MI Job Satisfaction
MI Male
MI Racial Stocks
MI Sex Factors
MI Substance Abuse /Psychology
MI Substance Abuse Treatment Centers /Economics
MI Substance Abuse Treatment Centers /Manpower

Item: 172

UI 91184625
AU Schwartzberg JG
AU Stein-Hulin J
TI Home health care: surmounting the obstacles to Medicare coverage.
SO Geriatrics 1991 Apr;46(4):28-30, 32-4, 37
JT GERIATRICS
AD Department of Geriatric Health, American Medical Association, Chicago.
LA Eng
AB The very words that physicians use when ordering home health services for their patients may determine whether those services will be reimbursed under the Medicare benefit. Thus, it is crucial for all physicians to become aware of: 1) methods of assessing patient home care needs based on the underlying medical conditions; 2) Medicare eligibility criteria and expanded coverage now available since the **Health Care Financing** Administration (HCFA) coverage manual was rewritten in 1989; and 3) how to advocate to ensure that the patient receives the care to which he or she is entitled.
PT JOURNAL ARTICLE

MJ Aftercare /Economics
MJ Home Care Services /Economics
MJ Home Nursing /Economics
MJ Medicare
MI Health Status
MI Home Nursing /Organization & Administration
MI Human
MI Managed Care Programs
MI Physicians Role
MI United States

Item: 173

UI 93393373
AU McBean AM
AU Babish JD
AU Warren JL
TI The impact and cost of influenza in the elderly.
SO Arch Intern Med 1993 Sep 27;153(18):2105-11
JT ARCHIVES OF INTERNAL MEDICINE
AD Epidemiology Branch, **Health Care Financing** Administration,
Baltimore, MD 21207.
LA Eng
AB BACKGROUND: Traditional methods of measuring the impact and cost of
influenza virus have focused on epidemic years and morbidity and
mortality due to pneumonia and influenza. METHODS: Annualized
age-sex-race adjusted rates of hospitalization for pneumonia and
influenza and other diagnoses among elderly Medicare beneficiaries
during the epidemic influenza season of 1989 to 1990 and the nonepidemic
season of 1990 to 1991 were compared with an interim period in 1990
without influenza virus circulation. RESULTS: The rates of
hospitalization for pneumonia and influenza, acute bronchitis, chronic
respiratory disease, and congestive heart failure were significantly
greater during each influenza period compared with the interim period.
The highest rates were found in the epidemic season of 1989 to 1990.
The amount reimbursed by Medicare to hospitals to 1990. The amount
reimbursed by Medicare to hospitals for the treatment of excess
hospitalizations during periods of influenza activity was more than \$1
billion in 1989 to 1990 and almost \$750 million in 1990 to 1991.
CONCLUSIONS: Measures of the impact and cost of influenza in elderly
Americans should include all of the diagnoses listed above and should
recognize that the impact of influenza virus is significant even in
nonepidemic years. There are great opportunities for cost savings if
effective control programs are implemented.
PT JOURNAL ARTICLE
MJ Cost of Illness
MJ Hospitalization /Economics
MJ Influenza /Economics
MI Acute Disease /Economics
MI Aged
MI Aged 80 and over

MI Bronchitis /Economics
MI Disease Outbreaks /Economics
MI Female
MI Hospitalization /Statistics & Numerical Data
MI Human
MI Male
MI Medicare /Economics
MI Medicare /Utilization
MI Pneumonia /Economics
MI United States

Item: 174

UI 93389082
TI Proposed rule from HCFA on notification of patients and HIV testing after receipt of potentially HIV-infectious blood or blood products [news]
SO Infect Control Hosp Epidemiol 1993 Aug;14(8):504
JT INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY
LA Eng
PT NEWS
MJ AIDS Serodiagnosis /Legislation & Jurisprudence
MJ Blood Transfusion
MJ Communication
MJ Patients
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Blood Banks /Legislation & Jurisprudence
MI Human
MI Risk Factors
MI United States

Item: 175

UI 93387871
AU Gornick M
AU McMillan A
AU Lubitz J
TI A longitudinal perspective on patterns of Medicare payments.
SO Health Aff (Millwood) 1993 Summer;12(2):140-50
JT HEALTH AFFAIRS
AD Division of Beneficiary Studies, **Health Care Financing** Administration (HCFA), Baltimore.
LA Eng
AB To provide insight into the stream of Medicare payments over time, a sixteen-year longitudinal study examines three age cohorts of beneficiaries, looking separately at beneficiaries who died during the study period and those who survived. The common wisdom that a small minority of the population accounts for a large majority of health care expenditures is tempered when health care use is examined over an extended period of time. By putting high average costs in the final years of life in the context of a cohort's total lifetime experience,

the study shows a leveling of spending over time, resulting in a lower concentration of health care resources on a small fraction of the population.

PT JOURNAL ARTICLE
MJ Health Care Costs /Legislation & Jurisprudence
MJ Health Expenditures /Statistics & Numerical Data
MJ Medicare /Utilization
MI Aged
MI Aged 80 and over
MI Cohort Studies
MI Female
MI Health Services Misuse /Economics
MI Human
MI Longitudinal Studies
MI Male
MI Medicare /Statistics & Numerical Data
MI Terminal Care /Economics
MI United States

Item: 176

UI 93377658
AU Brennan TA
TI An ethical perspective on health care insurance reform.
SO Am J Law Med 1993;19(1-2):37-74
JT AMERICAN JOURNAL OF LAW AND MEDICINE
AD Harvard School of Public Health.
LA Eng
AB Much recent analysis of health care insurance reform emphasizes economic and policy issues. In contrast, this Article examines health policy issues from the viewpoint of medical ethics. The critical ethical "problem" in health care today is that ability to pay determines the availability and quality of care. This Article discusses three types of proposed solutions: health care insurance reform, **health care financing** reform, and health care cost reform. It sketches an ethical framework for evaluating health policy and presents seven specific propositions that an ethical analysis of health care reform proposals raises. This Article concludes that remedying the unethical treatment of certain classes of patients requires both **health care financing** reform and health care cost reform; health care insurance reform will not suffice.

PT JOURNAL ARTICLE
MJ Ethics Medical
MJ Health Policy /Legislation & Jurisprudence
MJ Health Services Accessibility /Legislation & Jurisprudence
MJ Insurance Health /Legislation & Jurisprudence
MJ Medical Indigency /Legislation & Jurisprudence
MI Cost Control /Legislation & Jurisprudence
MI Health Care Costs /Legislation & Jurisprudence
MI Health Policy /Economics
MI Health Services Accessibility /Economics

MI Human
MI Informed Consent /Legislation & Jurisprudence
MI Insurance Health /Economics
MI Managed Care Programs /Economics
MI Managed Care Programs /Legislation & Jurisprudence
MI Physicians Role
MI Quality Assurance Health Care /Economics
MI Quality Assurance Health Care /Legislation & Jurisprudence
MI United States

Item: 177

UI 93377483
AU Michels KA
TI HCFA issues 1993 CRNA Medicare conversion factors.
SO AANA J 1993 Feb;61(1):7-11
JT AANA JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Economics
MJ Nurse Anesthetists /Economics
MJ Relative Value Scales
MI Human
MI Managed Care Programs /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 178

UI 93373348
AU Nightengale B
AU Reeder CE
TI The financial impact of OBRA-90 on community pharmacies: an overview.
SO Clin Ther 1993 May-Jun;15(3):581-92
JT CLINICAL THERAPEUTICS
AD College of Pharmacy, University of South Carolina, Columbia.
LA Eng
AB The Omnibus Budget Reconciliation Act of 1990 (OBRA-90) may be the most significant piece of legislation affecting the practice of pharmacy since the Durham-Humphrey amendments to the Food, Drug and Cosmetic Act. As part of the OBRA-90 legislation, the **Health Care Financing** Administration (HCFA) was required to publish estimates of the impact of the act on states, Medicaid recipients, and pharmacies. Numerous stakeholders and researchers have commented on the HCFA estimates. We have summarized the estimates available in comments and studies and conducted a sensitivity analysis on these estimates. Our results demonstrate considerable variation in the factors important in estimating the impact of OBRA-90 on pharmacy operations. This variation indicates the scarcity of empirical data needed to produce reliable impact estimates. Demonstration projects are needed to scientifically evaluate the total impact of OBRA-90 on pharmacy practice. Moreover, further investigation of the impact of the legislation on program

recipients and states is warranted.

PT JOURNAL ARTICLE
MJ Legislation Pharmacy
MJ Pharmacies /Economics
MI Computers /Economics
MI Human
MI Medicaid /Economics
MI Pharmaceutical Services /Economics
MI Prescription Fees /Trends
MI Support, Non-U.S. Gov't
MI United States

Item: 179

UI 93371660
AU Shekar S
TI The process and criteria for national coverage decisions by HCFA's Medicare program. Excerpted from an oral presentation delivered by Dr. Sam Shekar.
SO Ostomy Wound Manage 1993 May;39(4):52-3
JT OSTOMY/WOUND MANAGEMENT
LA Eng
PT JOURNAL ARTICLE
MJ Decision Making Organizational
MJ Health Policy
MJ Insurance Benefits
MJ Medicare
MI Cost-Benefit Analysis
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 180

UI 93369665
AU Ozawa MN
AU Auslander WF
AU Slonim-Nevo V
TI Problems in financing the care of AIDS patients.
SO Soc Work 1993 Jul;38(4):369-77
JT SOCIAL WORK
AD George Warren Brown School of Social Work, Washington University, St. Louis, MO 63130-4899.
LA Eng
AB The problem of financing the care of patients with acquired immune deficiency syndrome (AIDS) has reached crisis proportions. How will the United States cope with paying for the care of AIDS patients, many of whom either are denied private insurance or simply do not have money to pay for medical care? This article discusses how each component of the U.S. **health care financing** system is attempting to minimize its financial exposure to AIDS. It presents remedies that have been suggested in the literature. Finally, it points out the flaws in the

current system for dealing with people who suffer from catastrophic illnesses.

PT JOURNAL ARTICLE
MJ Acquired Immunodeficiency Syndrome /Economics
MJ Catastrophic Illness /Economics
MJ Health Care Costs
MJ Insurance Health
MI Acquired Immunodeficiency Syndrome /Therapy
MI Catastrophic Illness /Therapy
MI Human
MI National Health Insurance United States
MI United States

Item: 181

UI 93362043
AU Warren JL
AU Penberthy LT
AU Addiss DG
AU McBean AM
TI Appendectomy incidental to cholecystectomy among elderly Medicare beneficiaries.
SO Surg Gynecol Obstet 1993 Sep;177(3):288-94
JT SURGERY, GYNECOLOGY AND OBSTETRICS
AD Epidemiology Branch, **Health Care Financing** Administration, Baltimore, Maryland.
LA Eng
AB To assess the risks of adverse outcomes after appendectomy incidental to cholecystectomy among elderly Medicare beneficiaries, 8,936 persons undergoing cholecystectomy with incidental appendectomy and 44,461 persons undergoing cholecystectomy without incidental appendectomy were studied. Controlling for age, race, gender and co-morbidity status, the risk for wound infection in persons with incidental appendectomy was 83 percent higher than in persons without incidental appendectomy (95 percent confidence interval, 1.53 to 2.18). The risks for having other adverse outcomes, including other infections, extensive intrahospital complications and mortality rate at 30 days, were also higher for the former group, although these differences were not statistically significant. In addition, the demographic characteristics and health status of persons undergoing cholecystectomy with incidental appendectomy with persons undergoing cholecystectomy only were compared. Males, persons of younger ages, of white race or with no co-morbid conditions, were significantly more likely to undergo cholecystectomy with incidental appendectomy. Variables to control for differences in the demographic characteristics and health status between persons receiving and not receiving incidental appendectomy were included in the regression models for adverse outcomes. However, these models may not completely control for differences between the two groups. As a result, the actual relationship between incidental appendectomy and adverse outcomes may be underestimated. The preventive effect of incidental appendectomy on morbidity and mortality rates from future instances of

appendicitis was assessed by determining the remaining lifetime risk for acute appendicitis. For persons 65 to 69 years of age, 115 incidental appendectomies would be required to prevent one future instance of appendicitis and 4,472 incidental appendectomies would be needed to prevent a single future death from acute appendicitis. Because incidental appendectomy increases the risk for wound infection among persons undergoing cholecystectomy and because the lifetime risk for acute appendicitis is relatively low for persons of this age group, surgeons should carefully consider the risks and benefits of incidental appendectomy in the elderly.

PT JOURNAL ARTICLE
MJ Appendectomy /Utilization
MJ Cholecystectomy
MI Acute Disease
MI Aged
MI Appendectomy /Adverse Effects
MI Appendectomy /Statistics & Numerical Data
MI Appendicitis /Etiology
MI Appendicitis /Mortality
MI Appendicitis /Prevention & Control
MI Cholecystectomy /Adverse Effects
MI Cohort Studies
MI Comparative Study
MI Female
MI Human
MI Male
MI Medicare
MI Odds Ratio
MI Retrospective Studies
MI Risk Factors
MI Surgical Wound Infection /Etiology
MI United States

Item: 182

UI 93362020
AU Kobayashi Y
AU Reich MR
TI **Health care financing** for the elderly in Japan.
SO Soc Sci Med 1993 Aug;37(3):343-53
JT SOCIAL SCIENCE AND MEDICINE
AD Department of Public Health, Teikyo University School of Medicine,
Tokyo, Japan.
LA Eng
AB This paper examines the financing of elderly health care in Japan for medical institutions, nursing homes, and at home. The analysis demonstrates that the conventional figures for elderly health expenditures in Japan systematically underestimate the real costs by excluding the costs of uninsured services, nursing homes, and home health care. The paper estimates these costs and shows that they add about 10% to the conventional figure for elderly health care costs in

Japan. This inquiry also shows how government policy for **health care financing** shaped distinctive Japanese patterns of elderly care provision. The financing system provided a hidden subsidy--through national health insurance coverage of long-term hospitalization--that encouraged high institutionalization rates of elderly in medical facilities. Public financing for long-term elderly hospitalization, however, has not been matched by government attention to quality of care, resulting in serious quality problems and reflecting a social trade-off between cost and quality. Also, until recently the financing system rarely reimbursed home health care, thereby creating strong disincentives to the development of formal home health care services. This analysis has important implications for reforms now being considered by the Japanese government in the financing and provision of health care for the elderly, especially the limitations of relying on reimbursement price policy. The reforms could have unintended negative consequences for equity, efficiency, and quality of care.

PT JOURNAL ARTICLE
MJ Health Care Costs
MJ Health Services for the Aged /Economics
MI Aged
MI Home Care Services /Economics
MI Homes for the Aged /Economics
MI Human
MI Japan
MI National Health Programs
MI Nursing Homes /Economics
MI Support, Non-U.S. Gov't

Item: 183

UI 93360395
AU Adams WL
AU Yuan Z
AU Barboriak JJ
AU Rimm AA
TI Alcohol-related hospitalizations of elderly people. Prevalence and geographic variation in the United States.
SO JAMA 1993 Sep 8;270(10):1222-5
JT JAMA
AD Department of Medicine, Medical College of Wisconsin, Milwaukee.
LA Eng
AB OBJECTIVE--To determine the prevalence, geographic variation, and charges to Medicare of alcohol-related hospitalizations among elderly people in the United States. DESIGN--A cross-sectional prevalence study using 1989 hospital claims data from the **Health Care Financing** Administration (HCFA). Rates were determined using (1) hospital claims records from the HCFA's Medicare Provider Analysis and Review Record (MEDPAR) database for all Medicare Part A beneficiaries aged 65 years and older; (2) county population estimates for 1985 from the Bureau of the Census; and (3) per capita consumption of alcohol by state in 1989 as estimated by the US Department of Health and Human Services.

SETTING--Data include all hospital inpatient Medicare Part A beneficiaries aged 65 years and older in the United States in 1989. RESULTS--The prevalence of alcohol-related hospitalizations among people aged 65 years and older nationally in 1989 was 54.7 per 10,000 population for men and 14.8 per 10,000 for women. Comparison with hospital records showed that MEDPAR data had a sensitivity of 77% to detect alcohol-related hospitalizations. There was considerable geographic variation; prevalence ranged from 18.9 per 10,000 in Arkansas to 77.0 per 10,000 in Alaska. A strong correlation existed between alcohol-related hospitalizations and per capita consumption of alcohol by state (Spearman correlation coefficient, .64; $P < .0001$). In 1989, the hospital-associated charges to Medicare for all admissions where the primary diagnosis was alcohol related ($N = 33,039$) totaled \$233,543,500. Median charge per hospital stay was \$4514. CONCLUSIONS--Alcohol-related hospitalizations among elderly people are common; rates were similar to those for myocardial infarction as detected by the same method. The charges to Medicare for this preventable problem are considerable. Ecological analysis suggests that per capita consumption in the total US population predicts alcohol-related hospitalizations in the elderly population.

PT JOURNAL ARTICLE
 MJ Alcoholism /Epidemiology
 MJ Hospitals /Utilization
 MJ Patient Admission /Statistics & Numerical Data
 MI Aged
 MI Aged 80 and over
 MI Alcoholism /Economics
 MI Cross-Sectional Studies
 MI Female
 MI Human
 MI Male
 MI Medicare Part A /Statistics & Numerical Data
 MI Morbidity
 MI Patient Admission /Economics
 MI Prevalence
 MI United States /Epidemiology
 MI United States** Health Care Financing** Administration

Item: 184

UI 93355441
 AU Richardson M
 TI HCFA begins inspections of Texas physicians' office laboratories.
 SO Tex Med 1993 Jun;89(6):44-5
 JT TEXAS MEDICINE
 LA Eng
 PT JOURNAL ARTICLE
 MJ Laboratories /Legislation & Jurisprudence
 MJ Physicians Offices /Legislation & Jurisprudence
 MJ Quality Assurance Health Care /Legislation & Jurisprudence
 MJ United States** Health Care Financing** Administration

MI Human
MI Texas
MI United States

Item: 185

UI 93347846
AU Grimaldi PM
TI What will PPS look like for FY 1994?
SO Nurs Manage 1993 Aug;24(8):12, 14
JT NURSING MANAGEMENT
LA Eng
PT JOURNAL ARTICLE
MJ Prospective Payment System /Trends
MI Budgets /Legislation & Jurisprudence
MI Budgets /Trends
MI Medicare /Economics
MI Medicare /Legislation & Jurisprudence
MI Medicare /Trends
MI Prospective Payment System /Economics
MI Prospective Payment System /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 186

UI 93347366
AU Litwin MS
AU Sacher SJ
AU Cohen WS
TI The resource-based relative value scale: methods, results and impacts on urology.
SO J Urol 1993 Sep;150(3):981-7
JT JOURNAL OF UROLOGY
AD Department of Surgery, University of California, Los Angeles.
LA Eng
AB Increased concern for rising health care costs in the United States has led to the passage of legislation to reform physician payment for Medicare services based on resource inputs. In January 1992 the **Health Care Financing** Administration began implementing the new law, which replaces the existing Medicare system of physician payment with a fee schedule based on the resource-based relative value scale (RBRVS). We summarize the methods and data used to derive the RBRVS for urology. A national random sample of 115 practicing urologists completed structured telephone surveys to provide ratings of physician time and work required before, during and after most frequently performed urological services. Subsequent survey cycles with urologists provided further refinement. Urologists then participated in a cross-specialty physician panel to link services from all specialties onto a common scale. This common scale was adjusted for geographic differences in practice overhead costs and malpractice insurance premiums. A monetary conversion factor, determined by the **Health Care Financing**

Administration, was then applied to convert the RBRVS into a Medicare fee schedule. The merits and demerits of the scientific process used to develop and maintain the relative value scale are extensive. While statistically valid and reproducible, the study results have been altered in the political arena. The results and impacts of the new Medicare payment system on urology will be significant, although it is not yet clear how urological practice will be affected. Although faring better than most surgical specialties, urologists stand to lose approximately 8% of their Medicare income when the new fee schedule is fully implemented. There will be relative gains for evaluation and management services and losses for most invasive procedures.

PT JOURNAL ARTICLE
MJ Medicare Part B /Organization & Administration
MJ Relative Value Scales
MJ Urology /Economics
MI Fee Schedules
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI Urology /Classification
MI Work

Item: 187

UI 93346948
AU Proudfoot ML
TI A critique of the practice-expense values of the resource-based relative value scale [see comments]
SO J Fam Pract 1993 Jul;37(1):57-67
JT JOURNAL OF FAMILY PRACTICE
LA Eng
AB The resource-based relative value scale (RBRVS) was implemented by the **Health Care Financing** Administration on January 1, 1992. The practice-expense payments from the old Medicare fee scale were moved unchanged into RBRVS. This resulted in underpayment of office-based practice expenses and overpayment of hospital-based practice expenses. For example, office visits are underpaid by \$10.28, whereas coronary angiograms are overpaid by \$123.00. Unpaid practice expenses reduce the after-expense physician-work fee of the average office visit by about one half, yet overpayment of practice expenses for some hospital procedures almost doubles the after-expense physician-work fee for some subspecialties. Inflation will likely increase the actual practice expense of the average office visit to the point that the after-expense physician-work fee for the family physician will be reduced to zero by the year 2001.

PT JOURNAL ARTICLE
MJ Fee Schedules
MJ Medicare Part B /Economics
MJ Relative Value Scales
MI Comparative Study
MI Human
MI Infant Newborn

MI Inflation Economic
MI Office Visits /Economics
MI Outpatient Clinics Hospital /Economics
MI Reimbursement Mechanisms
MI Specialties Medical /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 188

UI 93346208
AU Green J
AU Wintfeld N
TI Evaluation of HCFA's Medicare hospital mortality report [letter]
SO Health Serv Res 1993 Aug;28(3):379-83
JT HEALTH SERVICES RESEARCH
LA Eng
PT LETTER
MJ Hospital Mortality
MI Health Services Research /Methods
MI Human
MI Medicare Part A
MI Models Statistical
MI Reproducibility of Results
MI United States /Epidemiology
MI United States** Health Care Financing** Administration

Item: 189

UI 93331496
AU Scarborough SP
TI Establishing banking relationships.
SO Top Health Care Financ 1993 Summer;19(4):69-79
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing /Organization & Administration
MJ Commerce /Organization & Administration
MJ Financial Management Hospital /Organization & Administration
MJ Interinstitutional Relations
MI Capital Financing /Classification
MI Capital Financing /Statistics & Numerical Data
MI Capital Financing /Standards
MI Commerce /Standards
MI Data Interpretation Statistical
MI Decision Making Organizational
MI Investments /Standards
MI Negotiating
MI Organizational Culture
MI United States

Item: 190

UI 93331495
AU Dixon LH
AU Bossert SK
TI The commercial bank as investment adviser for hospital investable assets.
SO Top Health Care Financ 1993 Summer;19(4):58-68
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing /Standards
MJ Commerce /Economics
MJ Consultants
MJ Financial Management Hospital /Methods
MJ Investments /Standards
MI Capital Financing /Organization & Administration
MI Investments /Organization & Administration
MI Organizational Objectives
MI Organizational Policy
MI United States

Item: 191

UI 93331494
AU Green LA
TI Cash management: acceleration and information strategies.
SO Top Health Care Financ 1993 Summer;19(4):44-57
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Accounts Payable and Receivable
MJ Computer Communication Networks
MJ Financial Management Hospital /Methods
MJ Management Information Systems
MI Capital Financing /Methods
MI Commerce /Economics
MI Medicare /Economics
MI Patient Admission /Economics
MI Patient Credit and Collection /Economics
MI Patient Credit and Collection /Organization & Administration
MI Patient Discharge /Economics
MI Purchasing Hospital /Economics
MI Purchasing Hospital /Organization & Administration
MI Research Design
MI Risk Management /Economics
MI United States

Item: 192

UI 93331493
AU Culler SD
TI Assessing hospital credit risk: a banker's view.
SO Top Health Care Financ 1993 Summer;19(4):35-43

JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing
MJ Commerce /Economics
MJ Financial Audit /Methods
MJ Financial Management Hospital /Statistics & Numerical Data
MI Accounts Payable and Receivable
MI Budgets
MI Catchment Area Health /Economics
MI Catchment Area Health /Statistics & Numerical Data
MI Economic Competition
MI Evaluation Studies
MI Facility Regulation and Control
MI Financial Management Hospital /Standards
MI Forecasting
MI Planning Techniques
MI Population Growth
MI Risk

Item: 193

UI 93331492
AU Kelly VK
TI Banks as a source of capital.
SO Top Health Care Financ 1993 Summer;19(4):21-34
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing /Methods
MJ Commerce /Economics
MJ Financial Management Hospital /Methods
MI Capital Financing /Classification
MI Capital Financing /Trends
MI Commerce /Trends
MI Financial Management Hospital /Trends
MI Hospitals Voluntary /Economics
MI Interinstitutional Relations
MI Investments /Economics
MI United States

Item: 194

UI 93331491
AU Culler SD
TI A creditor's perspective on the hospital industry.
SO Top Health Care Financ 1993 Summer;19(4):12-20
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Delivery of Health Care /Economics
MJ Economics Hospital /Trends

MJ Financial Management Hospital /Trends
MI Ambulatory Care /Economics
MI Ambulatory Care /Trends
MI Capital Financing /Trends
MI Commerce /Economics
MI Commerce /Trends
MI Cost Allocation /Economics
MI Cost Allocation /Trends
MI Delivery of Health Care /Trends
MI Economic Competition /Trends
MI Fees and Charges /Trends
MI Insurance Health Reimbursement /Economics
MI Insurance Health Reimbursement /Trends
MI Medicare /Economics
MI Medicare /Trends
MI Organizational Innovation
MI Risk
MI United States

Item: 195

UI 93331490
AU Scarborough SP
TI Banking industry dynamics and implications for hospitals.
SO Top Health Care Financ 1993 Summer;19(4):1-11
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing /Trends
MJ Commerce /Trends
MJ Financial Management Hospital /Trends
MI Capital Financing /Statistics & Numerical Data
MI Commerce /Economics
MI Commerce /Statistics & Numerical Data
MI Economic Competition
MI Financial Audit
MI Financial Management Hospital /Statistics & Numerical Data
MI Hospital Restructuring /Economics
MI Insurance /Statistics & Numerical Data
MI Investments /Statistics & Numerical Data
MI Pensions
MI United States

Item: 196

UI 93330387
AU Knapp CJ
TI OIG report claims HCFA overpaid \$54 million in 1991 for IDPN therapy
[news]
SO Nephrol News Issues 1993 Jul;7(7):9-10, 14
JT NEPHROLOGY NEWS AND ISSUES
LA Eng

PT NEWS
MJ Insurance Health Reimbursement
MJ Kidney Failure Chronic /Therapy
MJ Parenteral Nutrition /Economics
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 197

UI 93330383
AU Neumann ME
TI GAO report cites sloppy work in HCFA audits of ESRD facilities [news]
SO Nephrol News Issues 1993 Jul;7(7):11, 18
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT NEWS
MJ Health Facilities /Economics
MJ Kidney Failure Chronic /Economics
MJ Medical Audit /Standards
MI Costs and Cost Analysis
MI Health Facilities /Standards
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 198

UI 93330210
TI Final results: Medicare influenza vaccine demonstration--selected states, 1988-1992.
SO MMWR Morb Mortal Wkly Rep 1993 Aug 13;42(31):601-4
JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT
LA Eng
AB Pneumonia and influenza (P&I) are the sixth leading cause of death in the United States, and persons aged > or = 65 years and persons with chronic conditions (e.g., lung or heart disease, diabetes, or cancer) are at greatest risk for P&I. During major epidemics, hospitalization rates for persons at highest risk may increase twofold to fivefold. However, only 30% of persons aged > or = 65 years responding to CDC's National Health Interview Survey for 1989 reported having received the influenza vaccine during the previous year. In 1988, the **Health Care Financing** Administration (HCFA) and CDC began a congressionally mandated 4-year demonstration project to evaluate the cost-effectiveness to Medicare of providing influenza vaccine to Medicare beneficiaries. This report presents final results of the Medicare Influenza Vaccine Demonstration conducted during 1988-1992.
PT JOURNAL ARTICLE
MJ Influenza Vaccine
MI Cost-Benefit Analysis
MI Human
MI Influenza /Epidemiology

MI Influenza /Prevention & Control
MI Influenza Vaccine /Economics
MI Influenza Vaccine /Supply & Distribution
MI Medicare /Economics
MI United States /Epidemiology

Item: 199

UI 93329922
AU Potosky AL
AU Riley GF
AU Lubitz JD
AU Mentnech RM
AU Kessler LG
TI Potential for cancer related health services research using a linked Medicare-tumor registry database.
SO Med Care 1993 Aug;31(8):732-48
JT MEDICAL CARE
AD Division of Cancer Prevention and Control, National Cancer Institute, Bethesda, MD 20892.
LA Eng
AB The National Cancer Institute and the **Health Care Financing** Administration share a strong research interest in cancer costs, access to cancer prevention and treatment services, and cancer patient outcomes. To develop a database for such research, the two agencies have undertaken a collaborative effort to link Medicare Program data with the Surveillance, Epidemiology, and End Results (SEER) Program database. The SEER Program is a system of 9 population-based tumor registries that collect standardized clinical information on cases diagnosed in separate, geographically defined areas covering approximately 10% of the US population. Using a deterministic matching algorithm, the records of 94% of SEER registry cases diagnosed at age 65 or older between 1973 to 1989, or more than 610,000 persons, were successfully linked with Medicare claims files. The resulting database, combining clinical characteristics with information on utilization and costs, will permit the investigation of the contribution of various patient and health care setting factors to treatment patterns, costs, and medical outcomes.
PT JOURNAL ARTICLE
MJ Databases Factual
MJ Health Services Research /Methods
MJ Medicare /Statistics & Numerical Data
MJ Neoplasms /Epidemiology C4 C4.0
MJ Registries
MI Aged
MI Human
MI Medical Record Linkage
MI United States /Epidemiology
MI United States** Health Care Financing** Administration

Item: 200

UI 93324163
 AU Segal HE
 AU Rummel L
 AU Wu B
 TI The utility of PRO data on surgical volume: the example of carotid
 endarterectomy [see comments]
 SO QRB Qual Rev Bull 1993 May;19(5):152-7
 JT QRB. QUALITY REVIEW BULLETIN
 AD Keystone Peer Review Organization, Inc, Harrisburg, PA.
 LA Eng
 AB As part of a small-area analysis of carotid endarterectomy (CE) surgery,
 this review of Medicare claims data for a 26-month period addresses
 variations in surgical volume, mortality, readmissions, and charges. A
 surprisingly high percentage of surgeons performing CE did few
 procedures, and surgical volume appeared to be associated with higher
 mortality and charges. The implications of these data for both hospital
 credentialing committees and management and for purchasers and consumers
 of care, as well as the ways in which the **Health Care Financing**
 Organization's (HCFA) Health Care Quality Improvement Initiative (HCQII)
 will reorder their relationships with peer review organizations (PROs),
 are discussed. This study is useful in addressing the potential of
 efforts by PROs to increase the quality of care under the HCQII.
 PT JOURNAL ARTICLE
 MJ Data Collection /Methods
 MJ Endarterectomy Carotid /Utilization
 MJ Outcome Assessment Health Care
 MJ Physicians Practice Patterns /Statistics & Numerical Data
 MJ Professional Review Organizations
 MI Endarterectomy Carotid /Economics
 MI Endarterectomy Carotid /Mortality
 MI Fees and Charges /Statistics & Numerical Data
 MI Health Services Research /Methods
 MI Hospital Mortality
 MI Human
 MI Insurance Claim Reporting /Statistics & Numerical Data
 MI Medicare /Statistics & Numerical Data
 MI Patient Readmission /Statistics & Numerical Data
 MI Pennsylvania
 MI Physicians Practice Patterns /Economics
 MI Practice Guidelines
 MI Small-Area Analysis
 MI Specialties Medical
 MI United States
 MI Utilization Review
 MI Workload /Statistics & Numerical Data

Item: 201

UI 93319033
 AU Burns R
 AU Nichols LO

AU Graney MJ
AU Applegate WB
TI Mortality in a public and a private hospital compared: the severity of antecedent disorders in Medicare patients.
SO Am J Public Health 1993 Jul;83(7):966-71
JT AMERICAN JOURNAL OF PUBLIC HEALTH
AD Memphis Veterans Affairs Medical Center, TN.
LA Eng
AB OBJECTIVES. The objectives of this study were to determine (1) if there were significant differences between patients who died at a public hospital and those who died at a university hospital that functions as a private, community hospital, and (2) if those differences were associated with an increased risk of death. METHODS. Chart review collected variables used by the **Health Care Financing** Administration in mortality analyses to examine how severity of illness data contribute to accurate predictions of death in a public hospital compared with a university hospital. RESULTS. Compared with patients who died at the university hospital, public hospital patients who died had more comorbid disease, were more severely ill, more likely to be emergently admitted, and more likely to be admitted from an extended-care facility. Inclusion of severity of illness with variables previously used to predict mortality significantly improved the accuracy of mortality prediction models for the public hospital but not for the university hospital. CONCLUSIONS. The results suggest that urban public hospitals provide care to more severely ill patients. Administrative data sets may not be adequate to identify these differences between patient populations.

PT JOURNAL ARTICLE
MJ Comorbidity
MJ Hospital Mortality
MJ Hospitals Private /Statistics & Numerical Data
MJ Hospitals Public /Statistics & Numerical Data
MI Adult
MI Aged
MI Aged 80 and over
MI Comparative Study
MI Female
MI Hospital Bed Capacity 100 to 299
MI Hospital Bed Capacity 300 to 499
MI Hospitals University /Statistics & Numerical Data
MI Human
MI Logistic Models
MI Male
MI Medicare /Statistics & Numerical Data
MI Middle Age
MI Retrospective Studies
MI Sensitivity and Specificity
MI Severity of Illness Index
MI Tennessee /Epidemiology
MI United States

MI United States** Health Care Financing** Administration

Item: 202

UI 93317572

AU Rimm A

TI Mortality following various surgical procedures in the 34,000,000 Medicare population.

SO Proc Annu Meet Med Sect Am Counc Life Insur 1992;;171-82

JT PROCEEDINGS, ANNUAL MEETING OF THE MEDICAL SECTION OF THE AMERICAN COUNCIL OF LIFE INSURANCE

AD Division of Biostatistics-Clinical Epidemiology, Medical College of Wisconsin.

LA Eng

PT JOURNAL ARTICLE

MJ Hospital Mortality /Trends

MJ Medicare /Statistics & Numerical Data

MJ Surgery Operative /Adverse Effects E4 E4.0

MI Aged

MI Female

MI Hospitals /Classification

MI Human

MI Male

MI Middle Age

MI Professional Review Organizations

MI Quality Assurance Health Care

MI Reimbursement Mechanisms

MI Survival Rate

MI United States

MI United States** Health Care Financing** Administration

Item: 203

UI 93317335

AU Harrop DE

TI Fourth PRO scope of work.

SO Pa Med 1993 Feb;96(2):34

JT PENNSYLVANIA MEDICINE

LA Eng

PT JOURNAL ARTICLE

MJ Professional Review Organizations

MI Pennsylvania

MI United States

MI United States** Health Care Financing** Administration

Item: 204

UI 93317328

TI Examining the range of health care reform. University of Pittsburgh Task Force on **Health Care Financing**.

SO Pa Med 1993 Feb;96(2):12-5

JT PENNSYLVANIA MEDICINE

LA Eng

AB On December 16, 1991, Senator Harris Wofford invited the president of the University of Pittsburgh Medical Center to convene a group of its leaders for a roundtable discussion of health care issues. At that meeting, J. Dennis O'Connor, Ph.D., chancellor of the University of Pittsburgh, offered to appoint a multidisciplinary group of people from western Pennsylvania to collect data to analyze future policy options relative to health care and make its findings available to the senator, other legislators, and health policy makers. The chancellor invited representatives from the community, the University of Pittsburgh Medical Center, the University's Faculty of Arts and Sciences, and other academic and health care institutions in the area to participate in the analytical process. The task force met frequently over a 10-month period to develop a report, a portion of which is excerpted here.

PT JOURNAL ARTICLE
MJ Health Policy
MI Insurance Health
MI United States

Item: 205

UI 93315118
AU Berk PD
TI Restructuring American **health care financing**: first of all, do no harm!
SO Hepatology 1993 Jul;18(1):206-15
JT HEPATOLOGY
LA Eng
AB Health care costs are climbing throughout the western world. Aging populations and the costs of advanced technology are the principal forces behind much of this global increase. No country has yet succeeded in containing these growing costs other than by some form of rationing. A variety of experimental strategies, including managed competition, are being considered or tested, but none is clearly effective. American health care expenditures differ, not in that they are rising, but in their enormously high starting point. Among other things, our higher costs reflect administrative costs of more than 20%, double those of Canada and nearly triple the European average; a malpractice system that, whatever its possible advantages, costs more than 10 times as much as it pays out to the injured; the enormous medical costs of poverty; maldistribution of physician specialties and incomes; and reimbursement systems that eliminate consumer input and oversight. Restructuring the system of **health care financing** to bring administrative costs in line with those of other nations could save at least \$70 billion annually; another \$25 billion or more could be saved by replacing the malpractice system with more cost-effective alternatives. These savings could defray the costs of insuring all those not now covered, without increasing either costs to the middle class, through taxation of benefits, or total health care expenditures. With all Americans covered, the necessary restructuring of the system of health care delivery could be conducted without the current pressure for immediate drastic reform, which carries with it the risk of serious

error. In dealing with the sick, physicians are taught to apply two maxims: "primum non nocere" or "first of all, do no harm!"; and the rule of therapeutic restraint. The latter states that a severe chronic illness may respond better, and with fewer complications, to gradual corrective measures than to highly aggressive therapy. Both rules could well be applied to curing the American health care system.

PT JOURNAL ARTICLE
MJ Delivery of Health Care /Economics
MJ Financing Organized /Organization & Administration
MJ Health Care Costs
MI Delivery of Health Care /Organization & Administration
MI Education Medical /Economics
MI Insurance Health Reimbursement
MI Insurance Liability /Economics
MI Malpractice /Economics
MI Poverty
MI Specialties Medical
MI United States

Item: 206

UI 93313256
AU Besarab A
AU Erslev AJ
TI Recombinant erythropoietin. The effect of the marketplace on socialized patient care [editorial]
SO ASAIO J 1993 Apr-Jun;39(2):85-6
JT ASAIO JOURNAL
LA Eng
PT EDITORIAL
MJ Erythropoietin /Therapeutic Use
MJ Hemodialysis /Economics
MJ Kidney Failure Chronic /Therapy
MJ United States** Health Care Financing** Administration
MI Combined Modality Therapy
MI Cost-Benefit Analysis
MI Human
MI Quality of Life
MI Recombinant Proteins /Therapeutic Use
MI United States
MI United States Food and Drug Administration

Item: 207

UI 93308371
AU Davidson SM
TI Medicaid: taking stock.
SO J Health Polit Policy Law 1993 Spring;18(1):43-66; discussion 67-74
JT JOURNAL OF HEALTH POLITICS, POLICY AND LAW
AD Boston University.
LA Eng
AB In the last few years, Medicaid has attracted more than casual

attention, one reflection of which is the fact that JHPPL has published five papers on the program in its last few issues. This paper, a sixth, takes a broader view of the program than is typically the case. After a critique of the five recent articles, I discuss several questions raised by them and reach the following conclusions: First, the states do not invest enough in producing program data suitable for policy analysis and research. One lesson: Better data and analysis can help the states to avoid expensive mistakes. Second, those policy analyses that have been offered fail to give sufficient attention to the political dimension of policy. That is one reason why policy choices produce unexpected effects. Third, since Medicaid is a relatively small player in the vast medical care market, incentives adopted by Medicaid officials throughout the country rarely have the desired effects. Finally, as long as Medicaid remains the principal mechanism to provide access to health care for the poor, it must be made as efficient and effective as possible. Yet, for both political and economic reasons, Medicaid can never be what its original planners had hoped, the vehicle for providing the poor with reliable access to mainstream medical care.

PT JOURNAL ARTICLE
MJ Medicaid /Organization & Administration
MI Cost Control
MI Data Collection /Standards
MI Efficiency
MI Forecasting
MI Health Policy
MI Health Services Accessibility
MI Health Services Research
MI Marketing of Health Services /Economics
MI Medicaid /Economics
MI Medicaid /Legislation & Jurisprudence
MI Medicaid /Trends
MI Politics
MI Poverty
MI Reimbursement Incentive
MI United States
MI United States** Health Care Financing** Administration

Item: 208

UI 93305872
AU Dorgan JF
AU Ziegler RG
AU Schoenberg JB
AU Hartge P
AU McAdams MJ
AU Falk RT
AU Wilcox HB
AU Shaw GL
TI Race and sex differences in associations of vegetables, fruits, and carotenoids with lung cancer risk in New Jersey (United States).
SO Cancer Causes Control 1993 May;4(3):273-81

JT CANCER CAUSES AND CONTROL

AD Division of Cancer Prevention and Control, National Cancer Institute,
Bethesda, MD 20892.

LA Eng

AB We used data from a case-control study conducted in New Jersey between 1980 and 1983 to evaluate race and sex differences in associations of vegetable, fruit, and carotenoid consumption with lung cancer. Cases included 736 White males, 860 White females, 269 Black males, and 86 Black females with incident, histologically confirmed, primary cancer of the trachea, bronchus, or lung. Controls were identified through drivers' license and **Health Care Financing** Administration files and included 548 White males, 473 White females, 170 Black males, and 47 Black females. Usual intakes of vegetables (predominantly yellow/green) and fruit (predominantly yellow/orange) as well as other food sources of carotenoids were ascertained by a food frequency questionnaire. White females showed significant inverse associations of lung cancer with vegetables, fruit, and carotenoids. White males showed nonsignificant inverse associations with vegetables and carotenoids, and Black females just with vegetables. No inverse associations were found for Black males. Vegetable consumption was associated with risk of all histologic types of lung cancer, but the pattern of increasing risk with decreasing intake was limited to smokers. We infer that consumption of yellow/green vegetables and carotenoids may confer protection from lung cancer to White male and White female smokers. Further studies are needed to clarify the effect in Blacks.

PT JOURNAL ARTICLE

MJ Blacks

MJ Carotenoids

MJ Diet

MJ Fruit

MJ Lung Neoplasms /Epidemiology

MJ Vegetables

MJ Whites

MI Aged

MI Case-Control Studies

MI Diet Surveys

MI Female

MI Human

MI Incidence

MI Logistic Models

MI Lung Neoplasms /Etiology

MI Lung Neoplasms /Pathology

MI Male

MI Middle Age

MI New Jersey /Epidemiology

MI Odds Ratio

MI Risk Factors

MI Sex Factors

MI Smoking /Adverse Effects

Item: 209

UI 93304766

AU Kerrey B

AU Hofschire PJ

TI Hidden problems in current **health-care financing** and potential changes.

SO Am Psychol 1993 Mar;48(3):261-4

JT AMERICAN PSYCHOLOGIST

AD University of Nebraska Medical Center, Omaha 68105.

LA Eng

AB Health-care costs in the United States have risen significantly in the past 10 years, markedly affecting access to quality medical and mental health care. Deficit financing of our federal health-care expenditures adds billions of dollars annually to our national debt. Health-care reform is being hindered by both the inability of the government to pay for the uninsured and the unremitting spiral of the Medicare and Medicaid entitlement programs. The reasons for the total health-care cost increases include higher provider charges, overutilization of services, and the burgeoning technology; problems of malpractice, overspecialization, and consumer demands have also fueled the higher costs.

PT JOURNAL ARTICLE

MJ Delivery of Health Care /Economics

MJ Delivery of Health Care /Organization & Administration

MI Delivery of Health Care /Standards

MI Female

MI Human

MI Male

MI Medicaid /Economics

MI Medicare /Economics

MI United States

MI United States** Health Care Financing** Administration

Item: 210

UI 93300555

AU Porell FW

AU Tompkins CP

TI Medicare risk contracting: identifying factors associated with market exit.

SO Inquiry 1993 Summer;30(2):157-69

JT INQUIRY

AD Gerontology Center, University of Massachusetts, Boston 02125-3393.

LA Eng

AB Over the past few years, a number of HMOs have chosen to discontinue their Medicare risk contracts. Using logistic regression, this study sought to identify factors associated with Medicare risk contract market exit in 1988. Low AAPCC rates were found to systematically affect the market exit of only Medicare risk contractors that were regional components of a central HMO organization. The Medicare risk market exit of other HMOs was found to be principally related to two attributes

suggestive of possible unfavorable risk selection: the dropping of a previously offered prescription drug benefit and higher proportions of categorically disabled Medicare enrollees.

PT JOURNAL ARTICLE
MJ Contract Services /Utilization
MJ Health Maintenance Organizations /Utilization
MJ Medicare /Organization & Administration
MI Comparative Study
MI Contract Services /Economics
MI Contract Services /Statistics & Numerical Data
MI Costs and Cost Analysis /Statistics & Numerical Data
MI Economic Competition /Statistics & Numerical Data
MI Health Maintenance Organizations /Economics
MI Health Maintenance Organizations /Statistics & Numerical Data
MI Insurance Selection Bias
MI Logistic Models
MI Medicare /Statistics & Numerical Data
MI Multivariate Analysis
MI Risk
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration

Item: 211

UI 93297601
AU Lubitz JD
AU Gornick ME
AU Mentnech RM
AU Loop FD
TI Rehospitalizations after coronary revascularization among Medicare beneficiaries.
SO Am J Cardiol 1993 Jul 1;72(1):26-30
JT AMERICAN JOURNAL OF CARDIOLOGY
AD **Health Care Financing** Administration Office of Research and Demonstrations, Baltimore, MD 21207.
LA Eng
AB The rehospitalization experience of Medicare beneficiaries undergoing coronary artery bypass surgery or percutaneous transluminal coronary angioplasty in 1986 and 1987 was studied by following 53,715 patients who underwent coronary artery bypass and 28,817 patients who underwent angioplasty for 1 year using Medicare hospital claims data. The 1-year rehospitalization rate after bypass and angioplasty was 629 and 863 per 1,000, respectively, compared to a rate of 607 for the Medicare patient population in general. About 45% of rehospitalizations after bypass and two thirds after angioplasty were in categories determined by an expert panel to be possibly related to the original procedure. After angioplasty, there were 61 discharges per 1,000 for bypass surgery and 140 per 1,000 for a repeat angioplasty. Rehospitalization rates for coronary artery bypass surgery after angioplasty were significantly lower for female and black patients who underwent angioplasty. The

volume of rehospitalization after revascularizations makes it an important outcome measure. Medicare administrative records provide a unique source of information on rehospitalizations and make possible the monitoring of broad trends in the frequency and outcomes of coronary revascularization. The lower rates of bypass surgery after angioplasty for black and female patients are in line with other studies and bear further investigation.

PT JOURNAL ARTICLE
MJ Angioplasty Transluminal Percutaneous Coronary /Utilization
MJ Coronary Artery Bypass /Utilization
MJ Medicare /Utilization
MJ Patient Readmission /Statistics & Numerical Data
MJ Treatment Outcome
MI Aged
MI Angioplasty Transluminal Percutaneous Coronary /Economics
MI Angioplasty Transluminal Percutaneous Coronary /Statistics & Numerical Data
MI Coronary Artery Bypass /Economics
MI Coronary Artery Bypass /Statistics & Numerical Data
MI Female
MI Health Care Costs
MI Hospital Mortality
MI Human
MI Male
MI Medicare /Statistics & Numerical Data
MI Mortality
MI Negroid Race
MI Patient Readmission /Economics
MI Sex Factors
MI United States /Epidemiology

Item: 212

UI 93294393
AU Margolis HS
TI Prevention of acute and chronic liver disease through immunization: hepatitis B and beyond.
SO J Infect Dis 1993 Jul;168(1):9-14
JT JOURNAL OF INFECTIOUS DISEASES
AD Hepatitis Branch (World Health Organization Collaborating Centre for Research and Reference in Viral Hepatitis, Centers for Disease Control and Prevention, Atlanta, Georgia 30333.
LA Eng
AB Liver disease caused by hepatotropic viruses imposes a substantial burden on health care resources. Persistent infections from hepatitis B virus (HBV), hepatitis C virus, and hepatitis delta virus result in chronic liver disease, while hepatitis A virus and hepatitis E virus produce a self-limited disease. Effective hepatitis B vaccines that provide long-term protection against chronic HBV infection have been available for > 10 years, while inactivated hepatitis A vaccines have recently been shown to prevent acute disease. To prevent transmission

of HBV, scientifically and epidemiologically sound recommendations call for vaccination of all infants in successive birth cohorts worldwide. For hepatitis A vaccines, recommendations will be developed in the near future and should reflect vaccine performance and the epidemiology of hepatitis A. A number of policy, **health care financing**, and educational issues must be addressed to ensure the effective use of both of these vaccines.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Hepatitis Viral Human /Prevention & Control
MJ Viral Vaccines /Administration & Dosage
MI Acute Disease
MI Chronic Disease
MI Hepatitis B /Immunology
MI Hepatitis B /Prevention & Control
MI Hepatitis Viral Human /Immunology
MI Human
MI Immunization

Item: 213

UI 93293493
AU Goody B
TI Defining rural hospital markets.
SO Health Serv Res 1993 Jun;28(2):183-200
JT HEALTH SERVICES RESEARCH
AD Office of Research, **Health Care Financing** Administration (HCFA), Baltimore, MD 21207.
LA Eng
AB OBJECTIVE. The purpose of this study is to examine the geographic scope of rural hospital markets. DATA SOURCES. The study uses 1988 Medicare patient discharge records (MedPAR) and hospital financial information (HCRIS) for all rural hospitals participating in the Medicare Program. STUDY DESIGN. Hospital-specific market areas are compared to county-based market areas using a series of geographic and socioeconomic-demographic dimensions as well as indicators of market competitiveness. The potential impact of alternative market configurations on health services research is explored by estimating a model of rural hospital closure. DATA COLLECTION/EXTRACTION METHODS. Hospital-specific market areas were defined using the zip code of patient origin. Zip code-level data were subsequently aggregated to the market level. FINDINGS. Using the county as the hospital market area results not only in the inclusion of areas from which the hospital does not draw patients but also in the exclusion of areas from which it does draw patients. The empirical estimation of a model of rural hospital closure shows that the definition of a hospital market area does not jeopardize the ability to identify major risk factors for closure. CONCLUSIONS. Market area definition may be key to identifying and monitoring populations at risk from rural hospital decisions to downsize or close their facilities. Further research into the market areas of

rural hospitals that have closed would help to develop alternative, and perhaps more relevant, definitions of the population at risk.

PT JOURNAL ARTICLE
MJ Catchment Area Health /Statistics & Numerical Data
MJ Hospitals Rural /Organization & Administration
MI Catchment Area Health /Economics
MI Comparative Study
MI Economic Competition /Economics
MI Economic Competition /Organization & Administration
MI Economic Competition /Statistics & Numerical Data
MI Geography
MI Health Facility Closure /Economics
MI Health Facility Closure /Statistics & Numerical Data
MI Hospitals Rural /Classification
MI Hospitals Rural /Economics
MI Hospitals Rural /Statistics & Numerical Data
MI Logistic Models
MI Medicare /Economics
MI Medicare /Organization & Administration
MI Medicare /Statistics & Numerical Data
MI Models Organizational
MI Postal Service /Classification
MI Residence Characteristics
MI Small-Area Analysis
MI Socioeconomic Factors
MI United States

Item: 214

UI 93293196
AU Lamb HR
AU Goldfinger SM
AU Greenfeld D
AU Minkoff K
AU Nemiah JC
AU Schwab JJ
AU Talbott JA
AU Tasman A
AU Bachrach LL
TI Ensuring services for persons with chronic mental illness under national health care reform.
SO Hosp Community Psychiatry 1993 Jun;44(6):545-6
JT HOSPITAL AND COMMUNITY PSYCHIATRY
AD Department of Psychiatry, University of Southern California, School of Medicine, Los Angeles 90033.
LA Eng
AB People with chronic mental illness present complex challenges for the design of **health care financing** reforms. In this position statement from the committee on psychiatry and community of the Group for the Advancement of Psychiatry, the authors describe chronic and severe mental illnesses as psychiatric illnesses that require acute and ongoing

psychiatric assessment and treatment, as chronic medical diseases that require ongoing rehabilitative services, and as persistent disabilities that need ongoing supportive care and social services. Any proposal for health care reform must ensure parity of chronic psychiatric illnesses with other psychiatric conditions. It must also reimburse psychiatric rehabilitation at parity with other medical rehabilitation and provide equal access to and reimbursement for broad ancillary health services that reduce costs and improve quality of life.

PT JOURNAL ARTICLE
MJ Community Mental Health Services /Legislation & Jurisprudence
MJ Health Policy /Legislation & Jurisprudence
MJ Health Services Accessibility /Legislation & Jurisprudence
MJ Insurance Psychiatric /Legislation & Jurisprudence
MJ Mental Disorders /Rehabilitation
MI Chronic Disease
MI Community Mental Health Services /Economics
MI Comprehensive Health Care /Economics
MI Comprehensive Health Care /Legislation & Jurisprudence
MI Cost Control /Legislation & Jurisprudence
MI Health Policy /Economics
MI Health Services Accessibility /Economics
MI Human
MI Insurance Psychiatric /Economics
MI Mental Disorders /Economics
MI United States

Item: 215

UI 93291923
AU Vladeck BC
TI The new HCFA chief [interview by Renee Blankenau]
SO Hosp Health Netw 1993 Jul 5;67(13):18-21
JT HOSPITALS AND HEALTH NETWORKS
AD **Health Care Financing** Administration, Washington, DC.
LA Eng
AB Bruce Vladeck, the new HCFA administrator, shares his perspectives on HCFA's relationship with the hospital community, the concept of health networks, the role of Medicare and Medicaid in the reform scenario, and a variety of other topics.
PT INTERVIEW
MJ Health Policy /Economics
MJ United States** Health Care Financing** Administration /Organization & Administration
MI Managed Care Programs /Economics
MI Managed Care Programs /Organization & Administration
MI Medicaid /Economics
MI Medicaid /Organization & Administration
MI Medicare /Economics
MI Medicare /Organization & Administration
MI Organizational Objectives
MI United States

Item: 216

UI 93291595

AU Zinn JS

AU Aaronson WE

AU Rosko MD

TI The use of standardized indicators as quality improvement tools: an application in Pennsylvania nursing homes.

SO Am J Med Qual 1993 Summer;8(2):72-8

JT AMERICAN JOURNAL OF MEDICAL QUALITY

AD Department of Health Administration, Temple University, Philadelphia, PA 19122.

LA Eng

AB The Institute of Medicine recommends the use of key quality indicators (resident outcomes that suggest the presence of good or bad care) as tools for interfacility comparison of the quality of care provided in nursing homes. In the spirit of this recommendation, the **Health Care Financing** Administration released selected results from its Medicare and Medicaid Annual Certification Survey to guide consumers in purchasing nursing home services. However, because this information is published without adjustment for resident characteristics that can influence the outcomes of nursing home care, its utility for policy-makers or consumers interested in variation in nursing home quality is limited. This research study utilizes federal and state survey data to evaluate variations in mortality, pressure ulcers, urethral catheterization, and physical restraint use in 438 Medicare-certified skilled nursing care facilities in Pennsylvania. A standardization function adjusting for resident characteristics known to influence outcomes is developed and estimated by ordinary least squares regression. Results suggest considerable variation in rates for these indicators across Pennsylvania nursing home facilities. Alternative uses for risk-adjusted key quality indicators as tools for improving nursing home quality and assisting potential consumers of nursing home care in making better informed choices are considered.

PT JOURNAL ARTICLE

MJ Nursing Homes /Standards

MJ Outcome Assessment Health Care /Standards

MJ Quality Assurance Health Care /Standards

MI Aged

MI Aged 80 and over

MI Health Services Research

MI Human

MI Nursing Homes /Statistics & Numerical Data

MI Outcome Assessment Health Care /Statistics & Numerical Data

MI Pennsylvania

MI Quality Assurance Health Care /Statistics & Numerical Data

MI United States

MI United States** Health Care Financing** Administration

Item: 217

UI 93289405
 AU Yip W
 AU Luft HS
 TI Border crossing for hospital care and its implications for the use of
 statewide data.
 SO Soc Sci Med 1993 Jun;36(11):1455-65
 JT SOCIAL SCIENCE AND MEDICINE
 AD Institute for Health Policy Studies, University of California, San
 Francisco 94109.
 LA Eng
 AB A major concern of researchers using state data sets for
 population-based analyses and market share studies in the health care
 sector is the potential bias caused by 'border crossing'--patients
 receiving care out of state. By using the **Health Care Financing**
 Administration (HCFA) discharge abstract files for 1987 and 1988, we
 found that 'border crossing' is not a serious problem for the two large
 states we examined. Only 4.4% of New York patients and 2.15% of
 California patients received care out of state. At the county and zip
 code level, 'border crossing' is more frequent but tends to be
 concentrated in areas adjacent to other states. Even excluding all zip
 codes with more than 10% of patients crossing the 'border' results in a small
 loss of patients (2.2% for New York and 1.0% for California).
 PT JOURNAL ARTICLE
 MJ Catchment Area Health /Statistics & Numerical Data
 MJ Hospitals /Utilization
 MJ Travel
 MI Adolescence
 MI Adult
 MI Aged
 MI California
 MI Ecology
 MI Hospitals /Statistics & Numerical Data
 MI Human
 MI Medicare /Statistics & Numerical Data
 MI Medicare /Utilization
 MI Middle Age
 MI New York
 MI Patient Admission
 MI Support U S Govt P H S
 MI United States
 MI Utilization Review

Item: 218

UI 93288443
 AU Harrop DE
 TI Are PROs worth their costs?
 SO Pa Med 1993 May;96(5):48
 JT PENNSYLVANIA MEDICINE
 LA Eng
 PT JOURNAL ARTICLE

MJ Health Care Costs /Trends
MJ Professional Review Organizations /Economics
MI Cost Control
MI Human
MI Medicare /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 219

UI 93286856
AU Havens DM
AU Zink R
TI The Clinical Laboratory Improvement Amendments of 1988--what they mean to pediatric nurse practitioners.
SO J Pediatr Health Care 1993 May-Jun;7(3):135-40
JT JOURNAL OF PEDIATRIC HEALTH CARE
LA Eng
PT JOURNAL ARTICLE
MJ Diagnosis Laboratory
MJ Nurse Practitioners /Legislation & Jurisprudence
MI Human
MI Pediatric Nursing
MI Societies Nursing
MI United States
MI United States** Health Care Financing** Administration

Item: 220

UI 93285585
AU Letsch SW
TI National health care spending in 1991.
SO Health Aff (Millwood) 1993 Spring;12(1):94-110
JT HEALTH AFFAIRS
AD Office of the Actuary, **Health Care Financing** Administration, Baltimore.
LA Eng
AB The United States spent \$751.8 billion on health in 1991, an increase of 11.4 percent over 1990 levels. National health expenditures consumed 13.2 percent of gross domestic product (GDP). The 11.4 percent growth rate in spending is four times the rate of growth in the general economy. Medicaid contributed substantially to overall spending in 1991. Consumers' out-of-pocket payments grew only 5.7 percent to a total of \$144.3 billion, accounting for 19.2 percent of national health expenditures (the lowest share ever reported). Economywide price inflation accounted for 36 percent of health spending growth in 1991; increases in use and intensity of health services accounted for 30 percent of total spending growth; excess medical price inflation accounted for 25 percent, an amount that is consistent with its share throughout the 1980s.
PT JOURNAL ARTICLE
MJ Health Expenditures /Statistics & Numerical Data

MI Data Collection
MI Financing Personal /Statistics & Numerical Data
MI Health Care Costs /Statistics & Numerical Data
MI Human
MI Medical Assistance /Statistics & Numerical Data
MI United States

Item: 221

UI 93285568
AU Antos JR
TI Waivers, research, and health system reform.
SO Health Aff (Millwood) 1993 Spring;12(1):178-83
JT HEALTH AFFAIRS
AD Office of Research and Demonstrations, **Health Care Financing**
Administration, Baltimore.
LA Eng
PT JOURNAL ARTICLE
MJ Health Policy /Trends
MJ Health Services Research
MJ Medicaid /Economics
MJ Medicare /Economics
MI Financing Government
MI Health Policy /Economics
MI Human
MI Organizational Innovation
MI Pilot Projects
MI Program Development /Economics
MI United States

Item: 222

UI 93285565
AU Christianson JB
AU Moscovice IS
AU Tao G
TI A program to support small rural hospitals.
SO Health Aff (Millwood) 1993 Spring;12(1):152-61
JT HEALTH AFFAIRS
AD Rural Health Research Center, School of Public Health, University of
Minnesota.
LA Eng
AB Rural hospitals continue to face the threat of closure. Congress passed
legislation in 1989 and 1990 to offer an alternative for small rural
hospitals; the legislation encourages hospitals to form networks
comprising an essential access community hospital (EACH) and one or more
rural primary care hospitals. This legislation is a tightly focused
program that will affect no more than an estimated 150 hospitals in
seven states; implementation of the program has been controversial, as
this DataWatch demonstrates. The authors describe the profile of rural
hospitals that are likely to apply to participate in the program, based
on distances between hospitals and number of beds.

PT JOURNAL ARTICLE
MJ Hospitals Rural /Economics
MJ Hospitals Rural /Statistics & Numerical Data
MJ Medicare /Legislation & Jurisprudence
MJ Primary Health Care /Economics
MI Hospitals Rural /Legislation & Jurisprudence
MI Human
MI Program Development
MI Program Evaluation
MI Support, Non-U.S. Gov't
MI United States
MI United States** Health Care Financing** Administration

Item: 223

UI 93285560
AU Chulis GS
AU Eppig FP
AU Hogan MO
AU Waldo DR
AU Arnett RH 3d
TI Health insurance and the elderly.
SO Health Aff (Millwood) 1993 Spring;12(1):111-8
JT HEALTH AFFAIRS
AD Office of National Health Statistics, **Health Care Financing**
Administration, Baltimore.
LA Eng
AB The effectiveness of proposed changes to the Medicare program depends on consumers' responses to different market incentives, which vary according to the coverage the elderly possess to supplement their Medicare coverage. This Data Watch explores the extent of supplemental insurance among the elderly, based on a new data set from the Medicare Current Beneficiary Survey. Only 11 percent of Medicare beneficiaries have only Medicare as their source of coverage; the rest of the elderly population is covered by either private coverage (employer-sponsored retiree coverage or individually purchased coverage) or Medicaid. An increase in Medicare cost sharing would likely affect one-third of elderly beneficiaries, which calls into question the effectiveness of this approach to Medicare program reform.

PT JOURNAL ARTICLE
MJ Health Services for the Aged /Economics
MJ Insurance Medigap /Statistics & Numerical Data
MJ Medicare /Statistics & Numerical Data
MJ Pensions /Statistics & Numerical Data
MI Aged
MI Cost Sharing
MI Data Collection
MI Health Policy
MI Human
MI Medicaid /Statistics & Numerical Data
MI United States

Item: 224

UI 92228026
AU Blumenthal D
AU Epstein AM
TI Physician-payment reform--unfinished business [see comments]
SO N Engl J Med 1992 May 14;326(20):1330-4
JT NEW ENGLAND JOURNAL OF MEDICINE
AD General Medicine Unit, Massachusetts General Hospital, Boston.
LA Eng
PT JOURNAL ARTICLE
MJ Fees Medical /Legislation & Jurisprudence
MJ Medicare Part B /Legislation & Jurisprudence
MI Fee Schedules /Standards
MI Health Services Accessibility /Economics
MI Health Services Accessibility /Standards
MI Quality of Health Care /Economics
MI Quality of Health Care /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 225

UI 93280561
AU Federgreen WR
TI Office of Inspector General U.S. Department of Health and Human Services. An overview.
SO J Fla Med Assoc 1993 Apr;80(4):236-40
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
LA Eng
AB It has become increasingly important for physicians to be aware of the various legal liabilities regarding licensure they face in the daily practice of medicine. This includes issues related to fraud, waste and abuse. It has become a common refrain that physicians promote significant abusive and possibly fraudulent practices. This article describes the organization, function and work plans of the Office of Inspector General, Department of Health and Human Services. A structural guideline is presented based upon conviction and recovery rates to allow physicians to understand the scope of the problem in greater depth.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ United States Dept of Health and Human Services /Legislation & Jurisprudence
MI Costs and Cost Analysis
MI Fraud /Economics
MI Fraud /Legislation & Jurisprudence
MI Human
MI Medicare /Economics
MI Medicare /Legislation & Jurisprudence

MI Professional Review Organizations /Legislation & Jurisprudence
MI Quality Assurance Health Care /Legislation & Jurisprudence
MI United States
MI United States Dept of Health and Human Services /Economics
MI United States Dept of Health and Human Services /Organization &
Administration
MI United States** Health Care Financing** Administration /Economics
MI United States** Health Care Financing** Administration /Legislation &
Jurisprudence

Item: 226

UI 93280548
AU Zuber TJ
TI Primary care physician consultations [editorial] [see comments]
SO J Fam Pract 1993 Jun;36(6):605
JT JOURNAL OF FAMILY PRACTICE
LA Eng
PT EDITORIAL
MJ Family Practice
MJ Referral and Consultation /Economics
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 227

UI 93276852
AU Sherman RA
AU Cody RP
AU Solanchick JC
TI Racial differences in the delivery of hemodialysis.
SO Am J Kidney Dis 1993 Jun;21(6):632-4
JT AMERICAN JOURNAL OF KIDNEY DISEASES
AD Department of Medicine, University of Medicine and Dentistry of New
Jersey-Robert Wood Johnson Medical School, New Brunswick 08903.
LA Eng
AB Differences in the quality of medical care provided to black and white
patients have been observed in the United States, but have not been
studied in dialysis patients. We examined whether dialysis delivery, as
measured by indirect determination of Kt/V, differs between black and
white patients in New Jersey. Five hundred forty-four patients at 10
New Jersey dialysis units were randomly selected by the US **Health Care
Financing** Administration as part of their Medical Case Review Study.
Of these, 237 patients at eight units were classified as black or white
and had urea kinetic data available. The mean Kt/V urea was higher for
white than black patients at all facilities, averaging 1.03 for the 123
black patients and 1.20 for the 114 white patients (P = 0.0006). Black
patients were 40% more likely than white patients to have a Kt/V less
than 1.0 (45.6% of black patients v 32.5% of white patients, P = 0.038).
Racial disparities in dialysis delivery exist, the causes and
consequences of which need to be addressed.

PT JOURNAL ARTICLE
MJ Blacks
MJ Hemodialysis /Standards
MJ Kidney Failure Chronic /Therapy
MJ Quality of Health Care
MJ Whites
MI Blood Urea Nitrogen
MI Body Weight
MI Female
MI Human
MI Male
MI Middle Age
MI New Jersey
MI Prejudice
MI Support, U.S. Gov't, Non-P.H.S.

Item: 228

UI 93276768
AU Burch WH
TI Physician reimbursement [letter]
SO Am Fam Physician 1993 May 15;47(7):1582
JT AMERICAN FAMILY PHYSICIAN
LA Eng
PT LETTER
MJ Physicians
MJ Reimbursement Mechanisms /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 229

UI 93273565
AU Clancy CM
AU Himmelstein DU
AU Woolhandler S
TI Questions and answers about managed competition.
SO Int J Health Serv 1993;23(2):213-8
JT INTERNATIONAL JOURNAL OF HEALTH SERVICES
AD Center for National Health Program Studies, Cambridge Hospital, MA 02139.
LA Eng
AB The Managed Competition strategy for **health care financing** reform would push most people into cut-rate versions of health maintenance organizations chosen for them by their employer and owned by an insurance company. Many of those who currently enjoy good coverage would be forced into bare bones plans, and would forfeit the right to choose their health care provider. There is little evidence that the rigidly multi-tiered system created by Managed Competition would be more efficient or less expensive than the current U.S. system, and administrative costs would likely rise. Promises to expand coverage for the uninsured are likely to fall by the wayside if cost containment

fails, and no current Managed Competition proposals address long-term care. In rural areas including at least 30 percent of the U.S. population, price competition central to the Managed Competition strategy is untenable since a long hospital or other provider cannot compete with itself. Managed Competition would empower vertically integrated corporate health care insurer/providers and disempower patients and the clinical work force.

PT JOURNAL ARTICLE
MJ Competitive Medical Plans /Economics
MJ Health Policy /Economics
MJ Managed Care Programs /Economics
MI Cost Control
MI Health Benefit Plans Employee
MI Health Policy /Legislation & Jurisprudence
MI Human
MI United States

Item: 230

UI 93268362
AU Kreitzer SM
TI The American Health Care System--Medicare [letter; comment]
SO N Engl J Med 1993 Jun 17;328(24):1789; discussion 1790
JT NEW ENGLAND JOURNAL OF MEDICINE
LA Eng
PT COMMENT
PT LETTER
MJ Medicare /Economics
MI United States
MI United States** Health Care Financing** Administration /Economics

Item: 231

UI 93268360
AU Horn RG
TI The American Health Care System--Medicare [letter; comment]
SO N Engl J Med 1993 Jun 17;328(24):1788-9; discussion 1790
JT NEW ENGLAND JOURNAL OF MEDICINE
LA Eng
PT COMMENT
PT LETTER
MJ Medicare /Economics
MI Delivery of Health Care
MI Fees Medical
MI United States
MI United States** Health Care Financing** Administration

Item: 232

UI 93266883
AU Lapidus CS
AU Schwarz DF
AU Honig PJ

TI Atopic dermatitis in children: who cares? Who pays?
 SO J Am Acad Dermatol 1993 May;28(5 Pt 1):699-703
 JT JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY
 AD Department of Pediatrics, Children's Hospital of Philadelphia,
 Pennsylvania.
 LA Eng
 AB BACKGROUND: Atopic dermatitis is an important cause of morbidity in
 children of all ages. Despite its high prevalence, there has been no
 examination of ways in which care for atopic dermatitis is delivered.
 OBJECTIVE: This study reviewed the costs for care of childhood atopic
 dermatitis in an urban setting and estimated the national cost for
 treatment of the disease. METHODS: We used data from one children's
 hospital to study the use of the emergency room for atopic dermatitis
 and used national data sets to estimate the cost of care in the United
 States. RESULTS: A large proportion of visits occur in the emergency
 department, during daytime office hours, and mostly by patients who have
 public insurance. The total national cost for treatment of childhood
 atopic dermatitis is \$364 million annually, which is a conservative
 estimate. CONCLUSION: Given its high prevalence, associated morbidity,
 and cost, resources must be better allocated to improve the organization
 of care for patients with atopic dermatitis.
 PT JOURNAL ARTICLE
 MJ Dermatitis Atopic /Economics
 MI Adolescence
 MI Adult
 MI Ambulatory Care /Economics
 MI Child
 MI Costs and Cost Analysis /Statistics & Numerical Data
 MI Drug Costs /Statistics & Numerical Data
 MI Emergency Service Hospital /Economics
 MI Health Expenditures /Statistics & Numerical Data
 MI Hospitals Pediatric /Economics
 MI Hospitals Pediatric /Statistics & Numerical Data
 MI Hospitals Urban /Economics
 MI Hospitals Urban /Statistics & Numerical Data
 MI Human
 MI Medicaid /Economics
 MI Patient Admission /Economics
 MI Philadelphia /Epidemiology
 MI Reimbursement Mechanisms /Statistics & Numerical Data
 MI Severity of Illness Index
 MI United States
 MI United States** Health Care Financing** Administration /Economics

Item: 233

UI 93261405
 AU Soltys SM
 TI National health insurance.
 SO Mo Med 1993 Feb;90(2):76-84
 JT MISSOURI MEDICINE

LA Eng
PT JOURNAL ARTICLE
MJ Health Priorities /Legislation & Jurisprudence
MJ National Health Insurance United States /Legislation & Jurisprudence
MI Cost Control /Legislation & Jurisprudence
MI Health Care Costs /Legislation & Jurisprudence
MI Health Priorities /Economics
MI Health Services Accessibility /Economics
MI Health Services Accessibility /Legislation & Jurisprudence
MI Human
MI National Health Insurance United States /Economics
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 234

UI 93259595
AU Blankenau R
TI HCFA works to improve Medicare cost report audits.
SO Hospitals 1993 May 20;67(10):56-7
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Financial Audit /Organization & Administration
MJ Insurance Carriers /Economics
MJ Medicare /Organization & Administration
MI Documentation /Standards
MI Financial Audit /Standards
MI Insurance Carriers /Standards
MI Medicare /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 235

UI 93255566
AU Clark CS
AU Camp TL
TI Designing a physician ecosystem.
SO Top Health Care Financ 1993 Spring;19(3):8-16
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Planning /Organization & Administration
MJ Medical Staff Hospital /Organization & Administration
MJ Staff Development /Methods
MI Databases Factual
MI Human
MI Organizational Objectives
MI Patient Admission /Statistics & Numerical Data
MI Planning Techniques

MI Specialties Medical /Statistics & Numerical Data
MI United States

Item: 236

UI 93255565
AU Straley PF
AU Swaim CR
TI Financial analysis of medical office buildings.
SO Top Health Care Financ 1993 Spring;19(3):76-85
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Audit /Methods
MJ Hospital Restructuring /Economics
MJ Medical Office Buildings /Economics
MI Costs and Cost Analysis
MI Investments /Economics
MI United States

Item: 237

UI 93255564
AU Federa RD
AU Ketcham JS
TI The valuation of medical practices.
SO Top Health Care Financ 1993 Spring;19(3):67-75
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Audit /Methods
MJ Hospital-Physician Joint Ventures /Economics
MJ Practice Management Medical /Economics
MI Human
MI Models Organizational
MI Organizational Affiliation /Economics
MI United States

Item: 238

UI 93255563
AU Kolb DS
AU Hughes RL
AU Young CE
TI Economic credentialing.
SO Top Health Care Financ 1993 Spring;19(3):58-66
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Credentialing /Economics
MJ Medical Staff Privileges /Economics
MI Attitude of Health Personnel
MI Charities /Economics

MI Constitution and Bylaws
MI Contract Services /Economics
MI Contract Services /Legislation & Jurisprudence
MI Fees and Charges
MI Human
MI Medical Staff Privileges /Legislation & Jurisprudence
MI Physicians Practice Patterns /Economics
MI United States

Item: 239

UI 93255562
AU Wood MA
AU Erickson KA
TI Medical practice evaluation and analysis.
SO Top Health Care Financ 1993 Spring;19(3):32-57
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Audit /Methods
MJ Hospital-Physician Joint Ventures /Organization & Administration
MJ Practice Management Medical /Economics
MI Appointments and Schedules
MI Documentation
MI Fee Schedules
MI Hospital-Physician Joint Ventures /Economics
MI Human
MI Management Information Systems
MI Marketing of Health Services /Methods
MI Patient Credit and Collection
MI Physician-Patient Relations
MI Planning Techniques
MI United States

Item: 240

UI 93255561
AU Straley PF
AU Ryan JB
TI Developing a physician-hospital organization.
SO Top Health Care Financ 1993 Spring;19(3):24-31
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital-Physician Joint Ventures /Organization & Administration
MJ Preferred Provider Organizations /Organization & Administration
MJ Program Development /Methods
MI Financial Management Hospital
MI Focus Groups
MI Organizational Objectives
MI Planning Techniques
MI United States

Item: 241

UI 93255560
AU Hartwig PJ
TI Medical staff development: planning for a successful program.
SO Top Health Care Financ 1993 Spring;19(3):17-23
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Planning /Organization & Administration
MJ Medical Staff Hospital /Organization & Administration
MJ Staff Development /Methods
MI Educational Measurement
MI Human
MI Medical Staff Hospital /Supply & Distribution
MI Planning Techniques
MI Quality of Health Care
MI United States

Item: 242

UI 93255559
AU Ryan JB
AU Krentz SE
AU Horowitz JL
TI Financial analysis of medical staff development plans.
SO Top Health Care Financ 1993 Spring;19(3):1-7
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Statistics & Numerical Data
MJ Medical Staff Hospital /Economics
MJ Specialties Medical /Economics
MJ Staff Development /Economics
MI Evaluation Studies
MI Hospitals /Utilization
MI Human
MI Investments /Economics
MI Medical Staff Hospital /Supply & Distribution
MI Patient Admission /Economics
MI Patient Admission /Statistics & Numerical Data
MI Specialties Medical /Statistics & Numerical Data
MI United States

Item: 243

UI 93253941
AU Ayanian JZ
AU Udvarhelyi IS
AU Gatsonis CA
AU Pashos CL
AU Epstein AM

TI Racial differences in the use of revascularization procedures after coronary angiography.
 SO JAMA 1993 May 26;269(20):2642-6
 JT JAMA
 AD Division of General Medicine, Brigham and Women's Hospital, Boston, MA.
 LA Eng
 AB OBJECTIVE--To assess whether rates of coronary revascularization procedures differ between blacks and whites after coronary angiography is performed and to assess the relationship of these rates to hospital characteristics. DESIGN--A retrospective cohort study using 1987 and 1988 data on hospital claims and characteristics from the **Health Care Financing** Administration. SETTING--One thousand four hundred twenty-nine acute care hospitals that provide coronary angiography in the United States. PATIENTS--A national sample of 27,485 Medicare Part A enrollees, aged 65 to 74 years, who underwent inpatient angiography for coronary heart disease in 1987. MAIN OUTCOME MEASURE--The adjusted odds of revascularization with either coronary angioplasty or bypass graft surgery within 90 days of angiography for whites relative to blacks, controlling for age, sex, region, Medicaid eligibility, principal diagnosis, comorbid diagnoses, and hospital characteristics of ownership, teaching status, urban/suburban or rural location, and availability of revascularization procedures. RESULTS--White men and women were significantly more likely than black men and women, respectively, to receive a revascularization procedure after coronary angiography (57% and 50% vs 40% and 34%, both $P < .001$). The adjusted odds of receiving a revascularization procedure after coronary angiography were 78% higher for whites than blacks (95% confidence interval for odds ratio, 1.56 to 2.03). Statistically significant racial differences in the adjusted odds of receiving a revascularization procedure were present in all types of hospitals except rural hospitals, and these differences did not vary significantly by any of the four hospital characteristics (all $P > .20$ for interaction terms). CONCLUSIONS--Among Medicare enrollees, whites are more likely than blacks to receive revascularization procedures after coronary angiography. Racial differences of similar magnitude occur in all types of hospitals. These differences may reflect overuse in whites or underuse in blacks, but they are unlikely to reflect access to cardiologists or hospitals that perform revascularization procedures. Potential explanations include unmeasured clinical or socioeconomic factors, differing patient preferences, and racial bias at the hospitals performing angiography.

PT JOURNAL ARTICLE
 MJ Blacks /Statistics & Numerical Data
 MJ Coronary Angiography /Utilization
 MJ Health Services Accessibility /Statistics & Numerical Data
 MJ Myocardial Revascularization /Utilization
 MJ Racial Stocks
 MJ Whites /Statistics & Numerical Data
 MI Aged
 MI Coronary Angiography /Methods

MI Coronary Angiography /Statistics & Numerical Data
MI Female
MI Hospitals /Statistics & Numerical Data
MI Human
MI Male
MI Medicare Part A /Statistics & Numerical Data
MI Myocardial Revascularization /Statistics & Numerical Data
MI Physicians Practice Patterns /Statistics & Numerical Data
MI Retrospective Studies
MI Sex Factors
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI United States /Epidemiology

Item: 244

UI 93253907
AU Escarce JJ
TI Effects of lower surgical fees on the use of physician services under Medicare [see comments]
SO JAMA 1993 May 19;269(19):2513-8
JT JAMA
AD Department of Medicine, University of Pennsylvania, Philadelphia.
LA Eng
AB BACKGROUND AND OBJECTIVE--The changes in physician fees that will occur under the resource-based Medicare Fee Schedule (MFS) are similar to those that took place under the Omnibus Budget Reconciliation Act of 1987 (OBRA 87), when Medicare fees for selected "overpriced" procedures and diagnostic tests were reduced. To gain insight regarding the changes in utilization that may occur under the MFS, this study examines the effects of the OBRA 87 fee reductions on the use of physician services by Medicare patients. DATA AND METHODS--The five specialties that were most affected by the OBRA 87 fee reductions were studied: ophthalmology, thoracic surgery, urology, orthopedic surgery, and gastroenterology. Medicare physician claims files for 1987 and 1989 were used to obtain data on utilization and fees. Multivariate regression analysis was used to assess the effect of changes in fees on changes in utilization. RESULTS--The best estimate of the effect of the OBRA 87 fee reductions on overall physician-services utilization, obtained by pooling the five study specialties, was that every 1% decrease in fees led to a 0.09% decrease in the volume and complexity of services (95% confidence interval, 0.49% decrease to 0.31% increase). This result was not sensitive to minor changes in the covariates included in the regression model. CONCLUSION--To calculate payment levels during the transition to the MFS, the **Health Care Financing** Administration assumed that physicians whose Medicare revenue declines under the MFS will increase service volume and complexity enough to make up one half of the lost revenue. The findings of this study suggest that the **Health Care Financing** Administration's assumption was, at best, extreme.
PT JOURNAL ARTICLE

MJ Fee Schedules /Statistics & Numerical Data
MJ Medicare Part B /Economics
MJ Personal Health Services /Utilization
MJ Specialties Surgical /Economics
MJ Surgery Operative /Economics E4 E4.0
MI Diagnostic Services /Utilization
MI Fee Schedules /Legislation & Jurisprudence
MI Medicare Part B /Legislation & Jurisprudence
MI Office Visits /Utilization
MI Personal Health Services /Economics
MI Personal Health Services /Statistics & Numerical Data
MI Regression Analysis
MI Specialties Surgical /Statistics & Numerical Data
MI Support, Non-U.S. Gov't
MI Surgery Operative /Utilization E4 E4.0
MI United States

Item: 245

UI 93239080
AU Kronick R
TI Where should the buck stop: federal and state responsibilities in
health care financing reform.
SO Health Aff (Millwood) 1993;12 Suppl:87-98
JT HEALTH AFFAIRS
AD Department of Community and Family Medicine, University of California,
San Diego, La Jolla.
LA Eng
PT JOURNAL ARTICLE
MJ Consumer Advocacy /Legislation & Jurisprudence
MJ Financing Government
MJ Health Policy
MJ National Health Insurance United States /Economics
MI Competitive Medical Plans /Economics
MI Government
MI Human
MI Managed Care Programs /Economics
MI National Health Insurance United States /Legislation & Jurisprudence
MI Rate Setting and Review
MI United States

Item: 246

UI 93239074
AU Schieber GJ
TI **Health care financing** reform in Russia and Ukraine.
SO Health Aff (Millwood) 1993;12 Suppl:294-9
JT HEALTH AFFAIRS
AD Office of Research, **Health Care Financing** Administration, Baltimore.
LA Eng
PT JOURNAL ARTICLE
MJ State Medicine /Economics

MI Financing Government /Statistics & Numerical Data
MI Human
MI Russia
MI State Medicine /Statistics & Numerical Data
MI Ukraine

Item: 247

UI 93230943

TI A model for technology assessment applied to pulse oximetry. The Technology Assessment Task Force of the Society of Critical Care Medicine.

SO Crit Care Med 1993 Apr;21(4):615-24

JT CRITICAL CARE MEDICINE

LA Eng

AB OBJECTIVES: To test a model for the assessment of critical care technology. To develop practice guidelines for the use of pulse oximetry. DATA SOURCES: A computer-assisted search of the English language literature and interviews with recognized experts in the field of pulse oximetry. STUDY SELECTION: Those studies that addressed one or more of the seven questions contained in our technology assessment template were analyzed. Study design was not a factor in article selection. However, the lack of well-designed clinical outcome studies was an important factor in determining the method of practice policy development we utilized. DATA EXTRACTION: A focus person summarized the data from the selected studies that related to each of the seven assessment questions. The preliminary data summary developed by the focus person was further analyzed and refined by the task force and then sent to 16 expert reviewers for comment. These expert comments were considered by the task force, and this final consensus report was developed. DATA SYNTHESIS: Pulse oximetry combines the principles of spectrophotometry and plethysmography to noninvasively measure oxygen saturation with a high degree of accuracy over the range of 80% to 100% saturation, assuming the device is being used according to the manufacturer's instructions and without any adverse operating conditions. The appropriate clinical uses of pulse oximetry fall into one of two broad categories: as a warning system based on continuous real-time measurement of arterial desaturation, or as an end-point for titration of therapeutic interventions. There are no published studies that allow for definitive, outcome-based conclusions concerning either the clinical impact or cost-benefit ratio of pulse oximetry. CONCLUSIONS: The model developed for technology assessment proved to be appropriate for assessing pulse oximetry. The available data have allowed us to develop an evidence-based practice policy for the use of pulse oximetry in critical care. Critical care clinicians, researchers, and industry have a shared responsibility to provide valid outcome and efficacy studies of new technologies.

PT GUIDELINE

PT JOURNAL ARTICLE

PT PRACTICE GUIDELINE

PT REVIEW

PT REVIEW, TUTORIAL
MJ Critical Care
MJ Oximetry
MJ Technology Assessment Biomedical /Methods
MI Cost-Benefit Analysis
MI Models Theoretical
MI Oximetry /Economics
MI Practice Guidelines
MI Support, Non-U.S. Gov't
MI United States
MI United States Food and Drug Administration
MI United States** Health Care Financing** Administration

Item: 248

UI 93221379
AU Cembrowski GS
AU Hackney JR
AU Carey N
TI The detection of problem analytes in a single proficiency test challenge in the absence of the **Health Care Financing** Administration rule violations.
SO Arch Pathol Lab Med 1993 Apr;117(4):437-43
JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE
AD Park Nicollet Medical Center, Minneapolis, Minn. 55416.
LA Eng
AB The Clinical Laboratory Improvement Act of 1988 (CLIA 88) has dramatically changed proficiency testing (PT) practices having mandated (1) satisfactory PT for certain analytes as a condition of laboratory operation, (2) fixed PT limits for many of these "regulated" analytes, and (3) an increased number of PT specimens (n = 5) for each testing cycle. For many of these analytes, the fixed limits are much broader than the previously employed Standard Deviation Index (SDI) criteria. Paradoxically, there may be less incentive to identify and evaluate analytically significant outliers to improve the analytical process. Previously described "control rules" to evaluate these PT results are unworkable as they consider only two or three results. We used Monte Carlo simulations of Kodak Ektachem analyzers participating in PT to determine optimal control rules for the identification of PT results that are inconsistent with those from other laboratories using the same methods. The analysis of three representative analytes, potassium, creatine kinase, and iron was simulated with varying intrainstrument and interinstrument standard deviations (si and sg, respectively) obtained from the College of American Pathologists (Northfield, Ill) Quality Assurance Services data and Proficiency Test data, respectively. Analytical errors were simulated in each of the analytes and evaluated in terms of multiples of the interlaboratory SDI. Simple control rules for detecting systematic and random error were evaluated with power function graphs, graphs of probability of error detected vs magnitude of error. Based on the simulation results, we recommend screening all analytes for the occurrence of two or more observations exceeding the

same +/- 1 SDI limit. For any analyte satisfying this condition, the mean of the observations should be calculated. For analytes with sg/si ratios between 1.0 and 1.5, a significant systematic error is signaled by the mean exceeding 1.0 SDI. Significant random error is signaled by one observation exceeding the +/- 3-SDI limit or the range of the observations exceeding 4 SDIs. For analytes with higher sg/si, significant systematic or random error is signaled by violation of the screening rule (having at least two observations exceeding the same +/- 1 SDI limit). Random error can also be signaled by one observation exceeding the +/- 1.5-SDI limit or the range of the observations exceeding 3 SDIs. We present a practical approach to the workup of apparent PT errors.

PT JOURNAL ARTICLE
MJ Bias Epidemiology
MJ Chemistry Clinical /Standards
MJ Quality Assurance Health Care
MI Computer Simulation
MI Human
MI Random Allocation
MI Software
MI United States
MI United States** Health Care Financing** Administration

Item: 249

UI 93210782
AU Barber J
AU Perryman S
AU Hackney R
AU Hester R
TI Annual reporting of hospital mortality rates for Medicare patients--racial aspects.
SO J Natl Med Assoc 1992 Dec;84(12):1060-5
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION
AD Dept of Neurosurgery, DC General Hospital, Washington, DC 20003.
LA Eng
PT JOURNAL ARTICLE
MJ Blacks /Statistics & Numerical Data
MJ Hospital Mortality
MJ Medicare /Statistics & Numerical Data
MI Human
MI United States /Epidemiology
MI United States** Health Care Financing** Administration

Item: 250

UI 93210413
TI Revisions in the 1993 Medicare RBRVS fee schedule.
SO J Med Assoc Ga 1993 Mar;82(3):135-40
JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA
LA Eng
PT JOURNAL ARTICLE

MJ Medicare /Economics
MJ Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 251

UI 93205571
AU Saksena S
TI Physician payment reform: an arctic wind or a hint of spring?
SO PACE Pacing Clin Electrophysiol 1993 Mar;16(3 Pt 1):488-90
JT PACE. PACING AND CLINICAL ELECTROPHYSIOLOGY
AD UMDNJ-NJ Medical School, Newark.
LA Eng
PT JOURNAL ARTICLE
MJ Fee Schedules
MJ Medicare Part B
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration
MI Cardiac Pacing Artificial /Economics
MI Cardiology /Economics
MI Human
MI Reimbursement Mechanisms
MI United States
MI Work

Item: 252

UI 93205287
AU Nenner RP
AU Imperato PJ
AU Will TO
TI Quality of care problems among Medicare patients in New York State.
SO N Y State J Med 1993 Mar;93(3):159-62
JT NEW YORK STATE JOURNAL OF MEDICINE
AD Island Peer Review Organization (IPRO), Lake Success, NY 11042.
LA Eng
AB The Island Peer Review Organization is the peer review organization in New York State and is under contract with the **Health Care Financing** Administration to monitor the quality of care rendered to Medicare patients. A severity level III is assigned when a confirmed quality problem with significant adverse effects for the patient is confirmed. A severity level II is assigned when a confirmed quality problem with the potential for significant adverse effects on the patient is found. The purpose of this study was to retrospectively analyze all 85 severity level III citations and a 12% (223) random sample of the 1,880 severity level II citations for 1991. Another objective was to characterize the providers involved in each of these two levels of quality of care problems. Among the 85 severity level III citations, 34 (40.0%) involved premature death and 33 (38.8%) readmission. Treatment (45.0%), diagnostic (16.9%), and monitoring (16.4%) problems accounted for 78.3% of the 189 problems identified in severity level III citations. The

leading problem areas were the treatment of infections and the use of antibiotics (21.2%), fluid and electrolyte management (21.2%), drug use (9.4%), the use of endotracheal tubes (5.9%), the management of diabetes mellitus (5.9%), and the management of hematologic disorders (5.9%). Attending physicians (65.9%), nursing departments (16.5%), and resident physicians (7.1%) were involved in the vast majority (89.5%) of severity level III citations. Treatment problems comprised 60.5% of the 243 problems found in severity level II citations, followed by inadequate work-up (20.2%), and incomplete documentation (12.3%).(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
MJ Hospitalization
MJ Medicare
MJ Peer Review
MJ Quality Assurance Health Care
MI Health Services Misuse
MI Human
MI New York
MI Retrospective Studies
MI Treatment Outcome
MI United States

Item: 253

UI 93205053
AU Lubitz JD
AU Riley GF
TI Trends in Medicare payments in the last year of life.
SO N Engl J Med 1993 Apr 15;328(15):1092-6
JT NEW ENGLAND JOURNAL OF MEDICINE
AD **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng
AB BACKGROUND. Increased attention is being paid to the amount and types of medical services rendered in the period before death. There is a popular impression that a greater share of resources is being devoted to dying patients than in the past. We examined trends in the proportion of Medicare expenditures for persons 65 years old or older in their last year of life to determine whether there were any changes from 1976 to 1988. METHODS. Using Medicare program data for 1976, 1980, 1985, and 1988, we classified Medicare payments according to whether they were made for people in their last year of life (decedents) or for survivors. We also assigned expenses for care in the last year of life according to intervals of 30 days before the person's death and examined trends according to age. RESULTS. Reflecting the large overall increase in Medicare spending, Medicare costs for decedents rose from \$3,488 per person-year in 1976 to \$13,316 in 1988. However, Medicare payments for decedents as a percentage of the total Medicare budget changed little, fluctuating between 27.2 and 30.6 percent during the study period. Payments for care during the last 60 days of life expressed as a percentage of payments for the last year also held steady at about 52 percent. Furthermore, the pattern of lower payments for older as

compared with younger decedents also prevailed throughout the study period. CONCLUSIONS. The same forces that have acted to increase overall Medicare expenditures have affected care for both decedents and survivors. There is no evidence that persons in the last year of life account for a larger share of Medicare expenditures than in earlier years.

PT JOURNAL ARTICLE
MJ Medicare /Utilization
MJ Reimbursement Mechanisms /Trends
MJ Terminal Care /Economics
MI Aged
MI Aged 80 and over
MI Cost of Illness
MI Health Expenditures /Statistics & Numerical Data
MI Human
MI Longitudinal Studies
MI Medicare /Statistics & Numerical Data
MI Medicare /Trends
MI Survival Rate
MI United States

Item: 254

UI 93204579
AU Glaser WA
TI The competition vogue and its outcomes.
SO Lancet 1993 Mar 27;341(8848):805-12
JT LANCET
AD New School for Social Research, Graduate School of Management and Urban Policy, New York, NY 10011.
LA Eng
AB Social security and comprehensive **health care financing** were developed to protect all citizens and to redistribute money to cover costs. Their inspiration was social solidarity rather than pecuniary self-interest. The United States differed from other countries by continuing a private market in health, with many self-centred and competing providers and insurers; and its prevailing school of health economics deplored the national health insurance and national health services that were universal in other countries and recommended devices that would eliminate "market failure" in health. When health economics grew in Europe during the 1970s and 1980s, the reformers' first presumption was that the voluminous American market-oriented literature must offer answers; but much of it proved superfluous, since European health care systems still had much competition and consumer choice, and they worked better than the reality in the United States. The United States itself has paid a heavy price for turning over health financing policy to the devotees of microeconomics and free markets, and today its serious problems in health are unsolved. So powerful is the pro-competitive ideology that it has now been adopted by the Democratic Clinton Administration, contradicting the heritage of Roosevelt, Truman, and Johnson.

PT JOURNAL ARTICLE
MJ Economic Competition
MJ National Health Programs
MI France
MI Germany
MI Netherlands
MI United States

Item: 255

UI 93202702
AU Goody B
TI Sole providers of hospital care in rural areas.
SO Inquiry 1993 Spring;30(1):34-40
JT INQUIRY
AD Office of Research, **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng
AB This study examines the possibility of developing alternative targeting criteria for identifying small rural hospitals that serve as the sole providers of hospital care in their market areas. Compared to facilities currently targeted under Medicare payment policies, high market share hospitals are larger, less isolated facilities that deliver more complex care to their patients than other rural hospitals. They do not appear to serve vulnerable patient populations. Most importantly, these facilities appear to be financially viable and are likely to continue to provide services to their patients. The results of the study suggest that appropriate targeting criteria for identifying essential access facilities for reimbursement policy should focus on both structural characteristics and utilization patterns.

PT JOURNAL ARTICLE
MJ Health Policy
MJ Health Services Accessibility
MJ Hospitals Rural /Economics
MJ Insurance Health Reimbursement /Economics
MI Aged
MI Catchment Area Health
MI Hospitals Rural /Classification
MI Hospitals Rural /Utilization
MI Human
MI Medicare Part A
MI Rural Population
MI United States

Item: 256

UI 93202360
AU Bond JH
TI Control of the volume of gastrointestinal endoscopy.
SO Gastrointest Endosc 1993 Jan-Feb;39(1):102-3
JT GASTROINTESTINAL ENDOSCOPY
LA Eng

PT JOURNAL ARTICLE
MJ Endoscopy Gastrointestinal /Utilization
MJ Health Care Rationing
MI Endoscopy Gastrointestinal /Economics
MI Gastroenterology /Education
MI Human
MI Medicare /Economics
MI Physician Payment Review Commission
MI United States
MI United States** Health Care Financing** Administration

Item: 257

UI 93198863
AU McBean AM
AU Babish JD
AU Warren JL
TI Determination of lung cancer incidence in the elderly using Medicare claims data [see comments]
SO Am J Epidemiol 1993 Jan 15;137(2):226-34
JT AMERICAN JOURNAL OF EPIDEMIOLOGY
AD Epidemiology Branch, **Health Care Financing** Administration, Baltimore, MD.
LA Eng
AB The Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute provides data for making national estimates of lung cancer incidence and for monitoring secular trends. The authors compared the number of cases of lung cancer and the incidence rates among elderly residents of the five states included in the SEER program in 1986-1987 with the number of incident cases identified and the rates calculated using hospitalization and enrollment data on elderly Medicare beneficiaries maintained by the **Health Care Financing** Administration (HCFA) for the same years. The SEER program state registries identified 5.9% more cases than did HCFA ($p < 0.01$). However, the overall rates were similar (274.2/100,000 population for SEER and 264.7/100,000 population for HCFA), as were the majority of the rates for the different demographic subgroups examined. Age-adjusted lung cancer incidence rates for 1986 through 1990 among elderly Medicare beneficiaries residing outside of all nine SEER areas were 8-13 percent higher than the rates calculated for SEER-area residents. This observation is supported by the existence of similar differences in the age-adjusted lung cancer mortality rates for 1979 through 1988 in the same populations. Because the SEER areas may not be representative of the entire nation for lung cancer incidence and HCFA data cover the entire country, the authors recommend using HCFA information to complement the SEER data system.
PT JOURNAL ARTICLE
MJ Lung Neoplasms /Epidemiology
MJ Medicare /Statistics & Numerical Data
MJ National Institutes of Health U S /Standards
MJ Population Surveillance /Methods

MJ United States** Health Care Financing** Administration /Standards
MI Abstracting and Indexing /Standards
MI Age Factors
MI Aged
MI Aged 80 and over
MI Comparative Study
MI Evaluation Studies
MI Female
MI Hospitalization /Statistics & Numerical Data
MI Human
MI Incidence
MI Lung Neoplasms /Mortality
MI Male
MI Racial Stocks
MI Registries
MI Risk Factors
MI Sensitivity and Specificity
MI United States /Epidemiology
MI Age 19 and over

Item: 258

UI 93198043
AU Richardson M
TI Outgoing president creates new CLIA microscopy category.
SO Tex Med 1993 Mar;89(3):61-2
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Diagnostic Tests Routine
MJ Microscopy
MJ Physicians Offices /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Human
MI United States

Item: 259

UI 93189238
AU F'abi'an T
AU Kincses G
TI [Critical review of the financing system of Prospective Payment/
Diagnosis Related Groups, based on experience in the United States of
America]
SO Orv Hetil 1993 Mar 7;134(10):523-6
JT ORVOSI HETILAP
AD Mathematica Incorporation, Princeton.
LA Hun For
AB The authors survey the causes and results of introduction of DRG system.
The main cause for the introduction of this system was the sudden rise
of costs experienced in the early 80ties. The introduction was followed

by a manifest slowing down of cost rise, then again it started to increase a little. The internal efficiency of the institutions improved, the most outstanding example for that was the shortening of the average nursing time, the increase of the rate of outpatient consultations. The absolute value of costs did not decrease in spite of that because on the one hand medical technics are continuously developing and getting more expensive, on the other hand health care cannot as well be independent from the general processes of economy. Summarized it can be stated that the introduction of the DRG system in the USA did achieve its goal because it was able to slow down the rise of costs without serious operation disorders.

PT JOURNAL ARTICLE
MJ Diagnosis-Related Groups
MJ Health Care Costs
MJ United States** Health Care Financing** Administration
MI Comparative Study
MI Delivery of Health Care
MI Diagnosis-Related Groups /Economics
MI English Abstract
MI Financing Government
MI Health Planning
MI Human
MI Hungary
MI Medicare
MI Quality of Health Care
MI United States

Item: 260

UI 93186118
AU Blankenau R
TI Leeway for states. Revised waiver process may encourage state experiments.
SO Hospitals 1993 Mar 20;67(6):44, 46, 48
JT HOSPITALS
LA Eng
AB State government leaders are encouraged by President Clinton's promise to streamline the Medicaid waiver process. But how much and what kind of new activity will result depends on how far he goes in loosening current standards.
PT JOURNAL ARTICLE
MJ Health Policy /Trends
MJ Medicaid /Organization & Administration
MJ State Health Plans /Organization & Administration
MI Efficiency
MI Medicaid /Legislation & Jurisprudence
MI Organizational Innovation
MI State Health Plans /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 261

UI 93182653
AU Cantrell SA
TI Electronic processing of Medicare claims.
SO Am J Hosp Pharm 1993 Mar;50(3):424
JT AMERICAN JOURNAL OF HOSPITAL PHARMACY
LA Eng
PT JOURNAL ARTICLE
MJ Automatic Data Processing
MJ Insurance Claim Reporting
MI Human
MI Medicare /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 262

UI 93182560
AU Michels KA
TI HCFA medicare billing update.
SO AANA J 1992 Dec;60(6):527-8
JT AANA JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Accounting /Standards
MJ Anesthesia /Economics
MJ Medicare
MI Human
MI Nurse Anesthetists
MI United States
MI United States** Health Care Financing** Administration

Item: 263

UI 93181055
AU Pulay G
TI [Basic principles of the new **health care financing** system]
SO Orv Hetil 1993 Feb 20;134(8):417-8
JT ORVOSI HETILAP
LA Hun For
PT JOURNAL ARTICLE
MJ Delivery of Health Care /Economics
MI Economics Hospital
MI Employer Health Costs
MI Financing Government
MI Health Care Costs
MI Human
MI Hungary
MI Insurance Health /Economics

Item: 264

UI 93178104

AU Cerra FB
TI Healthcare reform: the role of coordinated critical care.
SO Crit Care Med 1993 Mar;21(3):457-64
JT CRITICAL CARE MEDICINE
AD Department of Surgery, University of Minnesota, Minneapolis.
LA Eng
AB OBJECTIVE: To evaluate and editorialize the evolving role of the discipline of critical care as a healthcare delivery system in the process of healthcare reform. DATA SOURCES: The sources included material from the Federal Office of Management and Budget, **Health Care Financing** Review, President Bush's Office, Association of American Medical Colleges, and publications of the Society of Critical Care Medicine. STUDY SELECTION: Data were selected that the author felt was relevant to the healthcare reform process and its implications for the discipline of critical care. DATA EXTRACTION: The data were extracted by the author to illustrate the forces behind healthcare reform, the implications for the practice of critical care, and role of critical care as a coordinated (managed) care system in the process of healthcare reform. DATA SYNTHESIS: Healthcare reform has been initiated because of a number of considerations that arise in evaluating the current healthcare delivery system: access, financing, cost, dissatisfactions with the mechanisms of delivery, and political issues. The reform process will occur with or without the involvement of critical care practitioners. Reforms may greatly alter the delivery of critical care services, education, training, and research in critical care. Critical care has evolved into a healthcare delivery system that provides services to patients who need and request them and provides these services in a coordinated (managed) care model. CONCLUSIONS: Critical care practitioners must become involved in the healthcare reform process, and critical care services that are effective must be preserved, as must the education, training, and research programs. Critical care as a healthcare delivery system utilizing a coordinated (managed) care model has the potential to provide services to all patients who need them and to deliver them in a manner that is cost effective and recognized as providing added value.

PT JOURNAL ARTICLE
MJ Critical Care
MJ Delivery of Health Care
MI Human
MI United States

Item: 265

UI 93177039
AU Besarab A
AU McCrea JB
TI Evolution of recombinant human erythropoietin usage in clinical practice in the United States. Is there an optimal way to use rHuEPO?
SO ASAIO J 1993 Jan-Mar;39(1):11-8
JT ASAIO JOURNAL
AD Department of Medicine, Jefferson Medical College of Thomas Jefferson

University, Philadelphia, PA 19107.

LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Anemia /Drug Therapy
MJ Drug Costs
MJ Erythropoietin /Economics
MJ Erythropoietin /Therapeutic Use
MJ Hemodialysis Units Hospital /Economics
MJ Medicare /Economics
MJ Reimbursement Mechanisms
MI Anemia /Etiology
MI Drug Administration Schedule
MI Erythropoietin /Administration & Dosage
MI Erythropoietin /Pharmacokinetics
MI Hemodialysis /Economics
MI Human
MI Kidney Failure Chronic /Complications
MI Kidney Failure Chronic /Economics
MI Recombinant Proteins /Administration & Dosage
MI Recombinant Proteins /Economics
MI Recombinant Proteins /Pharmacokinetics
MI Recombinant Proteins /Therapeutic Use
MI United States
MI United States Food and Drug Administration
MI United States** Health Care Financing** Administration

Item: 266

UI 93171036
AU Sabatino CP
TI Surely the Wizard will help us, Toto? Implementing the Patient Self-Determination Act.
SO Hastings Cent Rep 1993 Jan-Feb;23(1):12-6
JT HASTINGS CENTER REPORT
LA Eng
PT JOURNAL ARTICLE
MJ Advance Directives /Legislation & Jurisprudence
MJ Patient Advocacy /Legislation & Jurisprudence
MJ Patient Participation /Legislation & Jurisprudence
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 267

UI 93170800
AU Blankenau R
TI Medicaid worries. States dispute rule on new funding limits.
SO Hospitals 1993 Mar 5;67(5):28, 30, 32
JT HOSPITALS

LA Eng
AB The Clinton administration last month indicated that it will be sympathetic to how states will fare under federal limits on disproportionate-share hospital payments and provider taxes. But while states and providers knew what was in store for them under a federal statute, many say that the **Health Care Financing** Administration's initial interpretation goes too far and would sabotage funding systems they designed around the law.
PT JOURNAL ARTICLE
MJ Economics Hospital /Trends
MJ Medicaid /Legislation & Jurisprudence
MJ State Health Plans /Economics
MI Medical Indigency
MI Rate Setting and Review /Legislation & Jurisprudence
MI State Health Plans /Legislation & Jurisprudence
MI Taxes /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 268

UI 93166407
AU Richardson M
TI Medicare Physician Advisory Committee sets December meeting.
SO Tex Med 1992 Dec;88(12):51
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Medicare Assignment
MJ Physicians Role
MJ United States** Health Care Financing** Administration
MI Human
MI Texas
MI United States

Item: 269

UI 93165554
AU Alwin SP
TI Changes in healthcare financing [letter; comment]
SO Postgrad Med 1993 Feb;93(2):35
JT POSTGRADUATE MEDICINE
LA Eng
PT COMMENT
PT LETTER
MJ Delivery of Health Care /Economics
MJ National Health Programs /Economics
MJ United States** Health Care Financing** Administration
MI Canada
MI United States

Item: 270

UI 93164319
AU Fillinger MF
AU Zwolak RM
AU Musson AM
AU Cronenwett JL
TI Vascular laboratory cost analysis and the impact of the Resource-Based Relative Value Scale payment system.
SO J Vasc Surg 1993 Feb;17(2):267-78; discussion 278-9
JT JOURNAL OF VASCULAR SURGERY
AD Section of Vascular Surgery, Dartmouth-Hitchcock Medical Center, Lebanon, NH 03756.
LA Eng
AB PURPOSE: This study compares the actual cost of performing noninvasive laboratory studies with reimbursement under the previous Medicare Part B system and under current resource-based relative value scale (RBRVS) guidelines. METHODS: We calculated the cost to operate our own laboratory and estimated national costs for small- and large-model laboratories. Reimbursement under Medicare Part B was calculated for each Current Procedural Terminology code from average Medicare reimbursement allowances and national case volumes in 1990, which were obtained from the **Health Care Financing** Administration. All data were expressed as dollars per hour of study time to allow universal comparison of costs and reimbursement among tests that require differing lengths of time for completion. RESULTS: Technical costs for laboratory time ranged from \$143 to \$173 per study hour. The largest components of laboratory expenses were fixed costs, including personnel (37% to 46%), equipment (30% to 42%), and facilities (6% to 8%). Variable costs such as billing (9% to 10%) accounted for most of the remainder. More efficient allocation of equipment resulted in lower costs in large laboratories, whereas continued use of depreciated equipment resulted in lower costs in our own laboratory (\$127/hr). CONCLUSIONS: We project that technical reimbursement under RBRVS will be \$82/hr nationally and \$80/hr locally, whereas global reimbursement (technical plus professional) will be \$116/hr and \$110/hr, respectively. On the basis of 1990 case volumes, the RBRVS system will decrease national global reimbursement by at least 35% compared with the previous Medicare Part B system. Under the new system, technical reimbursement will decrease by an estimated 27% nationally, whereas professional reimbursement will decrease by 52%. Revenue under RBRVS will not meet the cost to perform studies either nationally or locally. Technical reimbursement is 37% to 54% below actual technical costs, and even global reimbursement is 13% to 34% less than technical costs. Our analysis revealed that costs will exceed reimbursement despite maximization of operating efficiency. This analysis applies to outpatients only. A case mix including inpatients will further reduce reimbursement, because only the professional component is allowed. By setting reimbursement of vascular laboratories below actual costs, the new RBRVS system may ultimately reduce the availability of noninvasive vascular testing for elderly patients.
PT JOURNAL ARTICLE
MJ Laboratories Hospital /Economics

MJ Medicare Part B /Economics
MJ Relative Value Scales
MJ Vascular Diseases /Economics
MI Computer Simulation
MI Costs and Cost Analysis
MI Diagnosis-Related Groups /Economics
MI Equipment and Supplies Hospital /Economics
MI Fee Schedules
MI Human
MI Laboratories Hospital /Manpower
MI New Hampshire
MI Reimbursement Mechanisms /Economics
MI United States
MI Vascular Diseases /Diagnosis

Item: 271

UI 93163319
AU McCall N
AU Kiriluk S
TI Changes in Medicare billing patterns: implications for physician payment reform.
SO J Public Health Policy 1992 Winter;13(4):472-84
JT JOURNAL OF PUBLIC HEALTH POLICY
LA Eng
AB This paper examines the changes in the billing for office visits, hospital visits, and consultations in the Medicare program for the period of 1986 through 1988. The analysis does not correct for changes in beneficiary or provider characteristics over the three-year period. Findings indicate \$75 million in additional Medicare expenditures due to change in pattern of physician charges for these three commonly performed groups of procedures.
PT JOURNAL ARTICLE
MJ Insurance Claim Reporting /Classification
MJ Medicare Part B /Organization & Administration
MJ Reimbursement Mechanisms /Trends
MI Abstracting and Indexing /Economics
MI Fees Medical
MI Health Services Research
MI Hospitalization /Economics
MI Human
MI Medicare Assignment
MI Medicare Part B /Trends
MI Medicare Part B /Utilization
MI Office Visits /Economics
MI Physician Payment Review Commission
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration

Item: 272

UI 93158578
 AU Blagg CR
 AU Liedtke RJ
 AU Batjer JD
 AU Racoosin B
 AU Sawyer TK
 AU Wick MJ
 AU Lawson L
 AU Wilkens K
 TI Serum albumin concentration-related **Health Care Financing**
 Administration quality assurance criterion is method-dependent: revision
 is necessary.
 SO Am J Kidney Dis 1993 Feb;21(2):138-44
 JT AMERICAN JOURNAL OF KIDNEY DISEASES
 AD Northwest Kidney Centers, Laboratory of Pathology of Seattle, Inc., WA
 98122.
 LA Eng
 AB The objective of this study was to examine quantitative differences
 between the two commonly used methods for determining serum albumin
 concentration, bromcresol green (BCG) and bromcresol purple (BCP), in
 normal subjects and in 235 unselected dialysis patients in view of
 recently established **Health Care Financing** Administration (HCFA)
 quality assurance review criteria. The mean of normal results by the
 BCG method was 4.4 g/dL, and 97.5% of values were 3.8 g/dL or higher.
 The mean of normal results by the BCP method was 3.9 g/dL, and 97.5% of
 values were 3.3 g/dL or higher. Serum albumin concentrations in samples
 from the dialysis patients had respectively lower mean values by both
 methods. For the BCG method, the mean was 3.8 g/dL, and 82% of values
 were 3.5 g/dL or higher; for the BCP method, the mean was 3.3 g/dL, and
 82% of values were 3.0 g/dL or higher. Likewise, for the reference
 immunonephelometric procedure, the mean value for the dialysis patients
 was 3.3 g/dL, and 82% of values were 3.0 g/dL or higher. For the
 samples from the dialysis patients, in comparison with the
 immunonephelometric method, the BCG method exhibited both constant
 (intercept = 9.3 g/L) and proportional error (slope = 0.87). The mean
 albumin value for the BCG method was 3.8 g/dL, 15% higher. In contrast,
 the BCP method compared closely with the reference method: slope = 1.00,
 intercept = 0.8 g/L, mean x = 3.3 g/dL, mean y = 3.3 g/dL. The HCFA
 quality assurance criteria are valid only for the BCG method.(ABSTRACT
 TRUNCATED AT 250 WORDS)
 PT JOURNAL ARTICLE
 MJ Hemodialysis /Standards
 MJ Kidney Failure Chronic /Blood
 MJ Peritoneal Dialysis /Standards
 MJ Quality Assurance Health Care /Standards
 MJ Serum Albumin /Analysis
 MJ United States** Health Care Financing** Administration
 MI Bromcresol Green
 MI Bromcresol Purple
 MI Calibration

MI Comparative Study
MI Human
MI Kidney Failure Chronic /Therapy
MI Nephelometry and Turbidimetry /Standards
MI Reference Values
MI United States

Item: 273

UI 93157928
AU Richardson M
TI CLIA inspection of physician office labs to begin this year.
SO Tex Med 1993 Feb;89(2):44-6
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Laboratories /Standards
MJ Physicians Offices
MJ United States** Health Care Financing** Administration
MI Human
MI Quality Assurance Health Care
MI Quality Control
MI Texas
MI United States

Item: 274

UI 93154885
AU Hartz AJ
AU Gottlieb MS
AU Kuhn EM
AU Rimm AA
TI The relationship between adjusted hospital mortality and the results of peer review.
SO Health Serv Res 1993 Feb;27(6):765-77
JT HEALTH SERVICES RESEARCH
AD Division of Biostatistics/Clinical Epidemiology, Medical College of Wisconsin, Milwaukee 53226.
LA Eng
AB This study assessed the relationship between the **Health Care Financing** Administration adjusted mortality rate for a hospital and the errors in care found by the peer review process. The three data sets used were: (1) the 1987-1988 completed reviews from 38 peer review organizations (PROs) of 4,132 hospitals and 2,035,128 patients; (2) all 1987 hospital mortality rates for Medicare patients as adjusted by HCFA for patient mix; and (3) the 1986 American Hospital Association Survey. The PRO data were used to compute the percentage of cases reviewed from each hospital confirmed by a reviewing physician to have a quality problem. The average percentage of confirmed problems was 3.73 percent with state rates ranging from 0.03 percent to 38.5 percent. The average within-state correlation between the problem rate and the adjusted mortality rate for all PROs was .19 ($p < .0001$), but the correlations

were much higher for relatively homogeneous groups of hospitals, .42 for public hospitals and .36 for hospitals in large metropolitan statistical areas (MSAs). These results suggest that the HCFA adjusted hospital mortality rate and the PRO-confirmed problem rate are related methods to compare hospitals on the basis of quality of care. Both methods may compare quality better if used within a group of homogenous hospitals.

PT JOURNAL ARTICLE
MJ Hospital Mortality
MJ Hospitals /Standards
MJ Peer Review
MJ Quality of Health Care /Statistics & Numerical Data
MI American Hospital Association
MI Data Collection /Standards
MI Health Services Research /Methods
MI Hospitals /Statistics & Numerical Data
MI Human
MI Medicare /Statistics & Numerical Data
MI Process Assessment Health Care /Statistics & Numerical Data
MI Professional Review Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 275

UI 93150522
AU Gregg SA
TI How can we achieve more value from our managed care efforts?
SO Top Health Care Financ 1992 Winter;19(2):89-95
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Health Policy
MJ Managed Care Programs /Standards
MJ Quality Assurance Health Care
MI Cost Control
MI Human
MI Managed Care Programs /Economics
MI Managed Care Programs /Organization & Administration
MI United States

Item: 276

UI 93150521
AU Lee AJ
TI Key factors affecting the future of managed care.
SO Top Health Care Financ 1992 Winter;19(2):83-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Health Maintenance Organizations /Trends
MI Aged
MI Forecasting

MI Human
MI Interinstitutional Relations
MI Medicare
MI Middle Age
MI United States

Item: 277

UI 93150520
AU Jacobson JM
TI Promoting and measuring productivity in the HMO.
SO Top Health Care Financ 1992 Winter;19(2):75-82
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Efficiency
MJ Health Maintenance Organizations /Organization & Administration
MI Cost-Benefit Analysis
MI Health Maintenance Organizations /Standards
MI Human
MI Quality Assurance Health Care
MI United States
MI Workload

Item: 278

UI 93150519
AU McKay NL
TI Financial analysis of direct contracting between hospitals and employers.
SO Top Health Care Financ 1992 Winter;19(2):65-74
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Contract Services /Economics
MJ Financial Management Hospital /Methods
MJ Health Benefit Plans Employee /Organization & Administration
MI Financial Audit
MI Human
MI Income /Statistics & Numerical Data
MI United States

Item: 279

UI 93150518
AU Schroeder RE
AU Atkinson AM
AU Armstrong RN
TI Pricing medical services in the managed care environment.
SO Top Health Care Financ 1992 Winter;19(2):58-64
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE

MJ Financial Management Hospital /Methods
MJ Managed Care Programs /Economics
MJ Rate Setting and Review /Methods
MI Cost Allocation
MI Fees and Charges
MI Human
MI Management Information Systems
MI Risk
MI United States
MI Utilization Review

Item: 280

UI 93150517
AU Boles KE
TI Insolvency in managed care organizations: financial indicators.
SO Top Health Care Financ 1992 Winter;19(2):40-57
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Bankruptcy
MJ Health Maintenance Organizations /Economics
MJ Managed Care Programs /Economics
MI Bankruptcy /Statistics & Numerical Data
MI Cost Control
MI Human
MI Risk Management
MI United States

Item: 281

UI 93150516
AU Smith DG
TI Provider involvement in managed care underwriting.
SO Top Health Care Financ 1992 Winter;19(2):33-9
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management /Methods
MJ Managed Care Programs /Economics
MI Actuarial Analysis
MI Contract Services /Organization & Administration
MI Fees and Charges
MI Human
MI Insurance Selection Bias
MI Managed Care Programs /Utilization
MI Rate Setting and Review /Organization & Administration
MI Risk Management

Item: 282

UI 93150515
AU Welge WL

TI Managed care is limited by the information system.
SO Top Health Care Financ 1992 Winter;19(2):23-32
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Managed Care Programs /Organization & Administration
MJ Management Information Systems
MI Contract Services /Organization & Administration
MI Data Display
MI Human
MI United States

Item: 283

UI 93150514
AU Jones LF
AU Font JA
TI Meeting employer needs in the managed care request for proposal process.
SO Top Health Care Financ 1992 Winter;19(2):18-22
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Competitive Bidding
MJ Financial Management Hospital
MJ Health Benefit Plans Employee /Economics
MJ Managed Care Programs /Economics
MI Cost Control
MI Decision Making
MI Human
MI United States

Item: 284

UI 93150513
AU Lewis JB
TI Hospital strategic management and managed care.
SO Top Health Care Financ 1992 Winter;19(2):11-7
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Administration
MJ Managed Care Programs /Organization & Administration
MI Decision Making
MI Health Maintenance Organizations /Organization & Administration
MI Human
MI Managed Care Programs /Standards
MI Organizational Objectives
MI Planning Techniques
MI Preferred Provider Organizations /Organization & Administration
MI United States

Item: 285

UI 93150512
AU Brooke PP Jr
TI Successfully managing managed care: organizational skills needed by hospitals to compete in an era of managed care.
SO Top Health Care Financ 1992 Winter;19(2):1-10
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Administration /Trends
MJ Managed Care Programs /Organization & Administration
MI Contract Services
MI Financial Management Hospital
MI Hospital Information Systems
MI Human
MI Managed Care Programs /Economics
MI Medical Staff Hospital
MI Organizational Innovation
MI Planning Techniques
MI Professional Competence
MI Quality Assurance Health Care
MI United States

Item: 286

UI 93147409
AU Phillips CD
AU Chu CW
AU Morris JN
AU Hawes C
TI Effects of cognitive impairment on the reliability of geriatric assessments in nursing homes.
SO J Am Geriatr Soc 1993 Feb;41(2):136-42
JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY
AD Center for Social Research and Policy Analysis, Research Triangle Institute, Research Triangle Park, NC 27709.
LA Eng
AB OBJECTIVE: To explore the relationship between an elderly subject's cognitive status and the reliability of multidimensional assessment data. DESIGN: Survey, with cognitive status as the independent variable and interrater reliability as dependent variable. SETTING: Medicare/Medicaid-certified nursing homes. PARTICIPANTS: 147 residents age 65 or older. MEASUREMENTS: Dual assessments of elderly nursing home residents were performed by nurse assessors using the **Health Care Financing** Administration's new Minimum Data Set for Nursing Home Resident Assessment and Care Screening (MDS). Assessments were classified on the basis of residents' cognitive status, and levels of disagreement between assessors were analyzed. MAIN RESULTS: Overall assessment reliability, agreement concerning a resident's activities of daily living status, and the reliability of estimates of his or her communication skills and sensory abilities were significantly affected by a resident's cognitive status. The presence of cognitive impairment

made these measurements less reliable--especially those related to communication skills, vision, and hearing. CONCLUSIONS: Assessments of residents suffering from cognitive impairment were significantly less reliable than assessments of cognitively intact residents. However, these differences in reliability were not uniform across all assessment domains. When treating the cognitively impaired elderly, clinicians must exercise caution in their reliance on standardized measurements that may be less reliable for this population.

PT JOURNAL ARTICLE
MJ Cognition Disorders /Classification
MJ Geriatric Assessment
MJ Nursing Homes
MI Activities of Daily Living
MI Aged
MI Cognition Disorders /Diagnosis
MI Female
MI Human
MI Male
MI Reproducibility of Results
MI Support U S Govt P H S

Item: 287

UI 93145802
AU Sonnenberg A
AU Massey BT
AU McCarty DJ
AU Jacobsen SJ
TI Epidemiology of hospitalization for achalasia in the United States.
SO Dig Dis Sci 1993 Feb;38(2):233-44
JT DIGESTIVE DISEASES AND SCIENCES
AD Division of Gastroenterology, VA Medical Center, Milwaukee, Wisconsin 53295.
LA Eng
AB Achalasia is an uncommon esophageal motility disorder of unknown etiology. To gain insights into possible etiologic risk factors, demographic and comorbidity data were obtained from Medicare hospital discharge data files from 1986-1989 on patients aged 65 and older. Age-adjusted sex- and race-specific occurrence rates were calculated for each US state. The rate of comorbid illness occurrence in achalasia patients was compared to that of the entire hospitalized Medicare population. Records of 15,000 achalasia discharges were available for analysis. Achalasia discharge rates increased linearly from age 65 to 94 years. They were similar in males and females as well as whites and nonwhites. High rates were observed in the South and low rates in most states of the East North Central region around the Great Lakes and in the Pacific region. The same geographic pattern was observed in men and women as well as in the two separate subsets of data representing the periods 1986-1987 and 1988-1989. Achalasia was associated with a significantly increased risk for pulmonary complications, malnutrition, and gastroesophageal cancer. The concordant occurrence of achalasia in

patients with Parkinson's disease, depressive disorder, and various other myoneural disorders indicated a possible etiologic relationship. Achalasia appears to represent the clinical end point of several different pathways. Besides aging, different neurologic diseases may contribute to a loss in control of esophageal motility. The geographic pattern could suggest the influence of environmental factors.

PT JOURNAL ARTICLE
 MJ Esophageal Achalasia /Epidemiology
 MJ Hospitalization /Trends
 MI Age Factors
 MI Aged
 MI Aged 80 and over
 MI Comorbidity
 MI Comparative Study
 MI Confidence Intervals
 MI Female
 MI Hospitalization /Statistics & Numerical Data
 MI Human
 MI Male
 MI Medicare /Statistics & Numerical Data
 MI Odds Ratio
 MI Sex Factors
 MI United States /Epidemiology
 MI United States** Health Care Financing** Administration

Item: 288

UI 93143515
 AU Frenkel M
 TI Ophthalmology and the Resource-Based Relative Value Fee Scale.
 SO Arch Ophthalmol 1993 Jan;111(1):50-5
 JT ARCHIVES OF OPHTHALMOLOGY
 AD University of Illinois Eye Center, Chicago 60612.
 LA Eng
 AB The Medicare Resource-Based Relative Value Scale for ophthalmology has significantly reduced the level of reimbursement for surgical fees and only minimally increased evaluation and management fees. Some observers have felt that the methods for determining fees were flawed, and, generally, practitioners have been concerned about a potential loss of income. While reimbursement for individual services is being cut, projections through 1996 indicate that ophthalmology, as a specialty, will receive 55% more funding due to historical trends and increasing ranks of providers. This will translate into a more moderate global reduction in revenue of approximately 11%. The possible implications of the Resource-Based Relative Value Scale include a concentration of ophthalmic surgery into fewer practices, which may be able to distribute medical liability costs over a larger number of procedures. To counter the constraints of fee limits, individual physicians will probably seek to enhance their net income by greater use of paraprofessional personnel, the acquisition of new technologies, and the application of improved management skills.

PT JOURNAL ARTICLE
 MJ Fee Schedules /Economics
 MJ Ophthalmology /Economics
 MJ Relative Value Scales
 MI Human
 MI Income /Statistics & Numerical Data
 MI Insurance Health Reimbursement
 MI Medicare Part B /Economics
 MI Physicians Practice Patterns /Economics
 MI Prospective Payment System
 MI Support U S Govt P H S
 MI United States
 MI United States** Health Care Financing** Administration

Item: 289

UI 93143514
 AU Verrilli DK
 AU Dunn DL
 AU Rand L
 TI The Resource-Based Relative Value Scale. Methods, results, and impacts for ophthalmology.
 SO Arch Ophthalmol 1993 Jan;111(1):41-9
 JT ARCHIVES OF OPHTHALMOLOGY
 AD Urban Institute, Washington, DC.
 LA Eng
 AB In January 1992, the **Health Care Financing** Administration implemented sweeping legislation that reformed the way Medicare pays for physicians' services. The cornerstone of the reform consists of a new fee schedule based on the Resource-Based Relative Value Scale. This article summarizes the methods and data used to derive the scale for ophthalmology. The results and impacts of the new Medicare payment rates for ophthalmology are also assessed. Using our methods and assumptions, ophthalmologists stand to lose 16% of their Medicare revenues under a fully implemented relative value-based fee schedule. Overall, the fees for performing evaluation and management services will increase, while those for most surgical procedures and diagnostic tests will decrease. Physicians' practice decisions and medical students' specialty choices could be affected. Ophthalmologists who perform work-intensive surgical procedures and spend the majority of their time in the operating room will continue to earn much higher incomes than those who do not.

PT JOURNAL ARTICLE
 MJ Ophthalmology /Economics
 MJ Relative Value Scales
 MI Fee Schedules
 MI Human
 MI Medicare Part B /Economics
 MI Physicians Practice Patterns
 MI Prospective Payment System
 MI Support, Non-U.S. Gov't

MI Support, U.S. Gov't, Non-P.H.S.
MI Time and Motion Studies
MI United States
MI United States** Health Care Financing** Administration
MI Workload /Classification

Item: 290

UI 93141324
TI American Academy of Pediatrics Committee on Child Health Financing:
Principles of child **health care financing**.
SO Pediatrics 1993 Feb;91(2):506-7
JT PEDIATRICS
LA Eng
PT JOURNAL ARTICLE
MJ Child Health Services /Economics
MJ Health Services Accessibility /Economics
MJ Insurance Health /Standards
MI Child
MI Child Health Services /Standards
MI Health Services Accessibility /Standards
MI Human
MI Insurance Health /Economics
MI Organizational Policy
MI Pediatrics
MI Societies Medical
MI United States

Item: 291

UI 93141285
AU Cartland JD
AU McManus MA
AU Flint SS
TI A decade of Medicaid in perspective: what have been the effects on
children?
SO Pediatrics 1993 Feb;91(2):287-95
JT PEDIATRICS
AD American Academy of Pediatrics, Elk Grove Village, IL 60009-0927.
LA Eng
AB This study of the Medicaid program analyzes changes in child recipients,
costs, and service use during the 1980s to assess the effects of recent
federal policy shifts and to project future costs for children. Data
presented in this study are from the **Health Care Financing**
Administration's Medicaid Statistical Report for the years 1979, 1985,
and 1990, three time-points that demarcate major federal policy shifts.
About half of all recipients added to the Medicaid program during the
last decade were children; they comprised 14% of the total cost growth
experienced by the program. In addition, the eligibility distribution
of children receiving Medicaid shifted markedly over the last decade.
In 1979, children receiving cash assistance comprised 90% of total child
recipients; by 1990, this figure dropped to 72%. Future expansions to

the Medicaid program are projected to cost less than the initial expansions. This is because the early expansions disproportionately served infants, who require more hospital services than older children. Despite the major changes in Medicaid eligibility for children during the 1980s, only limited cost shifts occurred in expenditures for children. Children continue to consume a small portion of the Medicaid budget. Congress should explore options for guaranteeing that their share of funding for services will be adequate. Moreover, since future expansions will be far less expensive than those already implemented, accelerating the phase-in process for all poor children may be a more financially feasible policy option than many policymakers anticipate, despite the fiscal hardships facing many states.

PT JOURNAL ARTICLE
 MJ Child Welfare
 MJ Health Expenditures /Statistics & Numerical Data
 MJ Medicaid /Standards
 MI Child
 MI Child Health Services /Economics
 MI Child Health Services /Trends
 MI Child Health Services /Utilization
 MI Databases Factual
 MI Forecasting
 MI Health Care Costs /Statistics & Numerical Data
 MI Health Care Costs /Trends
 MI Health Expenditures /Trends
 MI Health Policy /Economics
 MI Health Policy /Trends
 MI Health Services Research
 MI Human
 MI Medicaid /Economics
 MI Medicaid /Trends
 MI Support U S Govt P H S
 MI United States
 MI United States** Health Care Financing** Administration

Item: 292

UI 93135244
 AU Weick MD
 TI Physical restraints: an FDA update.
 SO Am J Nurs 1992 Nov;92(11):74-80
 JT AMERICAN JOURNAL OF NURSING
 AD Center for Devices and Radiological Health, Food and Drug Administration, Washington, DC.
 LA Eng
 PT JOURNAL ARTICLE
 MJ Equipment Safety
 MJ Restraint Physical
 MJ United States Food and Drug Administration
 MI Europe
 MI Human

MI Mortality
MI Product Labeling /Standards
MI Restraint Physical /Adverse Effects
MI United States
MI United States** Health Care Financing** Administration

Item: 293

UI 93131211
AU Tallon JR Jr
AU Nathan RP
TI A federal/state partnership for health system reform.
SO Health Aff (Millwood) 1992 Winter;11(4):7-16
JT HEALTH AFFAIRS
LA Eng
AB In view of the continued lack of consensus regarding health system reform, a new approach is needed to the pluralism that characterizes the U.S. political scene. A two-step strategy can help to break the deadlock around **health care financing** and provision: a framework around which to shape federal/state responsibility for health care and a process to ensure that policy is translated into action. This strategy, called a federal/state compact for health, builds on actions already under way in several states and represents a process that is both incremental and comprehensive in nature. The federal government would take the lead regarding policy making, financing, and establishing benefits. The states would administer the program with flexibility similar to that existing in Canada's provinces.
PT JOURNAL ARTICLE
MJ Health Policy /Legislation & Jurisprudence
MI Leadership
MI Politics
MI State Health Plans
MI United States

Item: 294

UI 93131191
AU Miller NA
TI Medicaid 2176 home and community-based care waivers: the first ten years.
SO Health Aff (Millwood) 1992 Winter;11(4):162-71
JT HEALTH AFFAIRS
AD Long-Term Care Coverage Branch, **Health Care Financing** Administration, Office of Research and Demonstrations, Baltimore, MD.
LA Eng
AB Budget reconciliation legislation in 1981 created a waiver program whereby states could provide home and community-based care under Medicaid for certain populations. States spent nearly \$1.7 billion on services delivered under these waivers, known as 2176 waivers, in 1991, compared with \$3.8 million in 1982, when only six states were participating in the program. Although these programs have not been rigorously evaluated for effectiveness, they continue to be a popular

approach to delivering care outside of institutions for various groups. Across all states, states spent 13.4 percent of their Medicaid long-term care dollars on care outside of institutions (which includes the 2176 waiver program).

PT JOURNAL ARTICLE
MJ Community Health Services /Economics
MJ Health Expenditures /Trends
MJ Medicaid /Organization & Administration
MI Data Collection
MI Health Expenditures /Statistics & Numerical Data
MI Home Care Services /Economics
MI Medicaid /Legislation & Jurisprudence
MI Pilot Projects
MI State Health Plans /Economics
MI United States

Item: 295

UI 93125202
AU Stawski W
TI MSMS survey on Medicare carrier problems revealing.
SO Mich Med 1992 Nov;91(11):35-6
JT MICHIGAN MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Carriers
MJ Medicare /Economics
MI Health Policy
MI Insurance Claim Reporting
MI Michigan
MI Societies Medical
MI United States
MI United States** Health Care Financing** Administration

Item: 296

UI 93121090
AU Hitchens JT
TI Ambulatory ophthalmic surgery and the **Health Care Financing** Administration's Outpatient Surgery Generic Quality Screen Guidelines.
SO CRNA 1992 Feb;3(1):2-6
JT CRNA
LA Eng
AB The quality of care rendered in ambulatory ophthalmic surgical centers is subject to the standards outlined in the **Health Care Financing** Administration's "Outpatient Surgery Generic Quality Screen Guidelines." Ophthalmic Surgery accounts for 28.2% of all ambulatory surgery performed in the United States. Diabetes, respiratory disorders, renal failure, and hypertension are a few of the clinical problems that are handled in a nontraditional fashion in ophthalmic surgery facilities throughout the United States with excellent results and low incidence of complications. Trends in the clinical management of patients in

ophthalmic surgical centers are described by data obtained in a survey conducted by the anesthesia and surgical staff of the Parris-Castoro Cataract and Laser Center in Bel Air, MD. The survey addressed the current trends in obtaining history and physicals, electrocardiograms, chest radiographs, and laboratory studies before outpatient ophthalmic surgery.

PT GUIDELINE
PT JOURNAL ARTICLE
PT PRACTICE GUIDELINE
MJ Ambulatory Surgery
MJ Eye Diseases /Surgery C11 C11.0
MJ Preoperative Care /Standards
MI Anesthesia /Standards
MI Comorbidity
MI Eye Diseases /Complications C11 C11.0
MI Human
MI Surgicenters /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 297

UI 93111451
AU McCue MJ
AU Clement JP
TI Relative performance of for-profit psychiatric hospitals in investor-owned systems and nonprofit psychiatric hospitals.
SO Am J Psychiatry 1993 Jan;150(1):77-82
JT AMERICAN JOURNAL OF PSYCHIATRY
AD Department of Health Administration, Medical College, Virginia Commonwealth University, Richmond 23298-0203.
LA Eng
AB OBJECTIVE: The authors analyzed the differences in operational and financial performance between 42 matched pairs of for-profit psychiatric hospitals belonging to multifacility organizations and nonprofit psychiatric hospitals for the fiscal years ending in 1986 through 1990. METHOD: The pairs of short-term hospitals were matched according to location, standard metropolitan statistical area, or wage index. Analyses were based on data on these hospitals from the **Health Care Financing** Administration. The groups of variables studied included the hospitals' operational performance and productivity, profitability and payer mix, revenue and expenses, and capital structure. Differences in the mean values of the variables for the for-profit hospitals and the nonprofit hospitals were analyzed by pairwise t tests. RESULTS: The for-profit organization hospitals had significantly higher net revenue, lower salary expenses, and higher profits than the nonprofit hospitals. Patients in the for-profit hospitals had longer stays, and these hospitals had fewer full-time employees per adjusted inpatient day and per adjusted discharge. CONCLUSIONS: The higher prices and operating margins of the for-profit hospitals belonging to investor-owned systems reflect the profit-maximizing goal of these facilities. The ability of

for-profit organization hospitals to achieve economies of scale in expenses, however, was not evident except in the case of salary expenses.

PT JOURNAL ARTICLE
MJ Hospitals Proprietary /Economics
MJ Hospitals Psychiatric /Economics
MJ Hospitals Voluntary /Economics
MI Bed Occupancy
MI Capital Financing
MI Comparative Study
MI Economics Hospital
MI Efficiency
MI Financial Management Hospital
MI Hospital Bed Capacity
MI Hospitals Proprietary /Organization & Administration
MI Hospitals Psychiatric /Organization & Administration
MI Hospitals Voluntary /Organization & Administration
MI Human

Item: 298

UI 93109997
AU Emery MJ
TI The impact of the prospective payment system: perceived changes in the nature of practice and clinical education.
SO Phys Ther 1993 Jan;73(1):18-29; discussion 29-32
JT PHYSICAL THERAPY
AD Department of Physical Therapy, School of Allied Health Sciences, University of Vermont, Burlington 05405-0068.
LA Eng
AB BACKGROUND AND PURPOSE. **Health care financing** for teaching hospitals has undergone significant change in the past decade. This report describes changes in physical therapy practice and clinical education in three New England hospitals from 1984 to 1988. SUBJECTS. Hospital administrators, physical therapy managers, and clinical educators (N = 18) from the three teaching hospitals participated in this descriptive study. METHODS. Demographic, environmental, and participant interview data were gathered and examined to identify changes during this period. RESULTS. Perceived changes in practice include growth in specialized knowledge; increased emphasis on health care quality, efficiency, and accountability; new ethical dilemmas for practitioners; and a changing physical therapy role with new professional development opportunities. Perceived changes associated with clinical education were increased student performance expectations, unchanged resources for clinical education, greater emphasis on student self-directedness, and continued high valuing of this setting for physical therapy clinical education. CONCLUSION AND DISCUSSION. These results indicate significant change in the role of the physical therapist within these settings and suggest how these changes influence the clinical education of physical therapy students in these teaching hospitals.

PT JOURNAL ARTICLE
 MJ Physical Therapy /Trends
 MJ Professional Practice /Trends
 MJ Prospective Payment System
 MI Clinical Competence
 MI Data Collection
 MI Demography
 MI Hospital Administrators
 MI Hospitals Teaching /Economics
 MI Human
 MI Interviews
 MI Learning
 MI Length of Stay
 MI Patient Discharge
 MI Physical Therapy /Education
 MI Physical Therapy Department Hospital /Organization & Administration
 MI Support, Non-U.S. Gov't
 MI Teaching /Methods

Item: 299

UI 93108793
 AU Naessens JM
 AU Leibson CL
 AU Krishan I
 AU Ballard DJ
 TI Contribution of a measure of disease complexity (COMPLEX) to prediction of outcome and charges among hospitalized patients [see comments]
 SO Mayo Clin Proc 1992 Dec;67(12):1140-9
 JT MAYO CLINIC PROCEEDINGS
 AD Section of Biostatistics, Mayo Clinic, Rochester, MN 55905.
 LA Eng
 AB Attention has been focused on the need to adjust hospital reimbursement and outcomes of hospital care for level of illness. Extant measures of disease severity, however, fail to consider the contribution of disease complexity. We developed an easily retrievable measure of disease complexity (COMPLEX) by modifying an existing severity system, computerized Disease Staging. The contribution of COMPLEX (the number of body systems affected with a Disease Staging score of 2 or more) to the prediction of outcome was assessed in two studies: (1) a population-based analysis of readmission and mortality after hospitalization and (2) an analysis of hospital charges among patients who were in an intensive-care unit. The amount of variation in mortality explained by factors included in the **Health Care Financing** Administration model was significantly improved when COMPLEX was added to the model (adjusted odds ratio per body system, 1.83; 95% confidence interval, 1.61 to 2.08). A significant association was also observed between COMPLEX score and hospital readmission after adjustment for age, sex, case-mix, and disease severity (adjusted odds ratio, 1.31; 95% confidence interval, 1.20 to 1.44). When COMPLEX was added to case-mix and disease severity in a model for predicting hospital charges, the

percentage of variation in hospital charges explained by the model increased from 25% to 38%. These findings demonstrate the important contribution of disease complexity to the analysis of outcome of medical care and utilization of resources. Outcome or reimbursement models that do not incorporate disease complexity may negatively affect institutions with a high proportion of patients who have complex conditions.

PT JOURNAL ARTICLE
MJ Hospitalization /Economics
MJ Outcome and Process Assessment Health Care /Statistics & Numerical Data
MJ Severity of Illness Index
MI Aged
MI Comorbidity
MI Diagnosis-Related Groups /Economics
MI Fees and Charges /Statistics & Numerical Data
MI Female
MI Human
MI Intensive Care Units /Economics
MI Intensive Care Units /Utilization
MI Logistic Models
MI Male
MI Medicare
MI Minnesota /Epidemiology
MI Mortality
MI Patient Readmission /Statistics & Numerical Data
MI Prospective Payment System
MI Regression Analysis
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI United States

Item: 300

UI 93100108
AU Coleman RE
AU Briner WH
AU Siegel BA
TI Clinical PET scanning. A "short-lived" orphan.
SO Int J Technol Assess Health Care 1992 Fall;8(4):610-22
JT INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE
AD Duke University Medical Center.
LA Eng
AB Positron emission tomography (PET) is a method of nuclear medicine imaging that uses short-lived radiopharmaceuticals to detect and quantify the metabolic abnormalities of disease processes. PET initially was developed in a research environment as a research tool; data from these research studies resulted in the gradual recognition that PET studies would be useful for various routine clinical applications. The diffusion of PET into clinical practice has been slow in comparison with other new imaging methods (e.g., magnetic resonance imaging). This slow diffusion is attributable to several factors, including the complexity and high cost of PET, the uncertain role of the

U.S. Food and Drug Administration in regulating the radiopharmaceuticals that are produced and used on-site for PET studies, and the apparent slow pace at which the **Health Care Financing** Administration and other third-party payers are developing policies for reimbursing for PET.

PT JOURNAL ARTICLE
MJ Diffusion of Innovation
MJ Technology Assessment Biomedical
MJ Tomography, Emission-Computed
MI Costs and Cost Analysis
MI Drug Approval
MI Insurance Carriers
MI Insurance Health Reimbursement
MI Tomography, Emission-Computed /Economics
MI Tomography, Emission-Computed /Utilization
MI United States
MI United States Food and Drug Administration
MI United States** Health Care Financing** Administration

Item: 301

UI 93097260
AU Brame JB
TI RBRVS: the first 6 months [letter]
SO Tex Med 1992 Sep;88(9):8-9
JT TEXAS MEDICINE
LA Eng
PT LETTER
MJ Insurance Health Reimbursement
MJ Medicare /Economics
MJ Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 302

UI 93096498
AU Harrop DE
TI Looking for changes in retroactive HCFA directives.
SO Pa Med 1992 Dec;95(12):38
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Professional Review Organizations /Organization & Administration
MJ United States** Health Care Financing** Administration /Organization & Administration
MI Pennsylvania
MI Societies Medical
MI United States

Item: 303

UI 93096397

AU Voldish K
TI CLIA-88 final rule: Part 2.
SO N J Med 1992 Oct;89(10):777-8
JT NEW JERSEY MEDICINE
AD POL Consultants, Haddonfield, NJ 08033.
LA Eng
AB Physicians performing moderate or high complexity tests will need to prepare their office laboratories to meet CLIA-88 government standards. Doctors who have not applied for their registration certificate should do so immediately. This is the second in a three-part series.
PT JOURNAL ARTICLE
MJ Laboratories /Legislation & Jurisprudence
MJ Laboratories /Standards
MJ Practice Management Medical /Legislation & Jurisprudence
MJ Practice Management Medical /Standards
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 304

UI 93090188
TI ASHA standards upheld by Medicaid services in WV [news]
SO ASHA 1992 Nov;34(11):20
JT ASHA
LA Eng
PT NEWS
MJ American Speech-Language-Hearing Association /Economics
MJ Clinical Competence /Standards
MJ Medicaid /Economics
MI Adolescence
MI Child
MI Child Language
MI Child Preschool
MI Communicative Disorders /Therapy
MI Female
MI Human
MI Licensure /Standards
MI Male
MI Schools
MI Speech Therapy
MI Speech-Language Pathology /Education
MI Speech-Language Pathology /Standards
MI United States
MI United States** Health Care Financing** Administration
MI West Virginia

Item: 305

UI 93085833
AU Maloney JV Jr
TI The resource-based relative value scale [see comments]

SO JAMA 1992 Dec 16;268(23):3363-5
JT JAMA
AD Department of Surgery, UCLA School of Medicine 90024-1741.
LA Eng
PT JOURNAL ARTICLE
MJ Fees Medical
MJ Medicare /Economics
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration
MI Forecasting
MI Income
MI Reimbursement Mechanisms
MI Socioeconomic Factors
MI Specialties Medical /Economics
MI Support, Non-U.S. Gov't
MI Time Factors
MI United States

Item: 306

UI 93085332
AU Zuber TJ
AU Purvis JR
TI Coding and reimbursement of primary care debridement and excision procedures.
SO J Fam Pract 1992 Dec;35(6):663-72
JT JOURNAL OF FAMILY PRACTICE
AD Department of Family Medicine, East Carolina University School of Medicine, Greenville, NC.
LA Eng
AB Current medical practice requires physicians to accurately report services provided to patients. Patient billing for debridement and excision procedures involves the selection of specific 1992 Physicians' Current Procedural Terminology codes. Although a site-specific surgical procedure code often yields higher reimbursement than a general procedure code, physicians should select the code that most accurately reflects the procedure performed. This review identifies the codes used to report destruction and excision procedures performed by primary care physicians. Included in this review are skin debridement, burn debridement, excision of benign and malignant lesions of the skin and subcutaneous tissue, cyst and ganglion excision, nail excision, anorectal lesion excision, shave, paring, and skin tag excision procedures, and foreign body removal. The **Health Care Financing** Administration's relative value units and one state's published Medicaid payment rates are included for each procedure code. Instructions are provided for selecting between multiple coding options when more than one code describes the service provided.
PT JOURNAL ARTICLE
MJ Debridement /Classification
MJ Insurance Claim Reporting
MJ Medical Records

MJ Primary Health Care /Economics
MJ Surgery Operative /Classification E4 E4.0
MI Abstracting and Indexing
MI Comparative Study
MI Human
MI Medicaid /Organization & Administration
MI Medicare Part B /Organization & Administration
MI Neoplasms /Economics C4 C4.0
MI Neoplasms /Surgery C4 C4.0
MI North Carolina
MI Relative Value Scales
MI Skin /Surgery
MI United States

Item: 307

UI 93069040
AU Breuer C
TI [Ambulatory surgery--urology]
SO Ther Umsch 1992 Jul;49(7):485-8
JT THERAPEUTISCHE UMSCHAU
AD Urologische Klinik, Kantonsspital, Liestal.
LA Ger For
AB Similar to other surgical specialties, there are in urology a considerable number of interventions that may be performed on an outpatient basis. This holds true also for the rapidly evolving endoscopic urology. Well-established and new indications are discussed and modern operative techniques described. However, the move to more outpatient or day surgery with fewer and shorter hospital stays will, in Switzerland, mostly depend on the **health care financing** system or on 'who pays for what'.
PT JOURNAL ARTICLE
MJ Ambulatory Surgery /Trends
MJ Urogenital Diseases /Surgery
MI English Abstract
MI Female
MI Human
MI Male
MI Patient Care Team
MI Postoperative Care
MI Urogenital Diseases /Diagnosis

Item: 308

UI 93065771
AU Rineberg BA
TI The next 2 to 4 years in **health care financing**: a prediction [editorial]
SO Orthopedics 1992 Sep;15(9):1009-10
JT ORTHOPEDICS
LA Eng
PT EDITORIAL

MJ Health Expenditures /Trends
MJ Insurance Health
MJ Physicians Role
MI Forecasting
MI Health Policy
MI United States

Item: 309

UI 93061438

AU Levy JM

AU Borowitz M

AU McNeill S

AU London WJ

AU Savord G

TI Understanding the Medicare Fee Schedule and its impact on physicians under the final rule.

SO Med Care 1992 Nov;30(11 Suppl):NS80-94

JT MEDICAL CARE

AD Office of Research, **Health Care Financing** Administration, Baltimore, MD 21207.

LA Eng

AB On January 1, 1992, the Medicare program unveiled a new method for paying physicians known as the Medicare Fee Schedule (MFS). The new fee schedule is a complex system of administrative pricing based on the resource inputs used in producing physician services. The MFS consists of three parts: 1) a Relative Value Scale, which assigns to each medical service a value relative to all other services; 2) a conversion factor, which converts the relative values into dollars; and 3) a geographic adjustment factor, which adjusts payments based on geographic differences in the cost of producing physician services. In this article, the following are addressed: how the relative values were determined; how the geographic adjustment factor was constructed; and how the conversion factor was calculated. In addition, balance billing limits and the Medicare Volume Performance Standards (MVPS) are described. Computer simulations of the impact of the MFS on payments to physicians are presented. The authors found that the MFS will 1) redistribute payments away from surgeons, radiologists, and other procedure-based specialties toward the primary care specialties; 2) redistribute payments away from urban areas toward rural areas; and 3) redistribute payments away from invasive procedures and diagnostic tests toward evaluation and management services. The authors conclude with a discussion of the future refinements of the MFS, its applicability to other payers, and whether it will accomplish its intended purposes.

PT JOURNAL ARTICLE

MJ Fee Schedules /Organization & Administration

MJ Medicare Part B /Economics

MJ Professional Practice Location /Economics

MJ Relative Value Scales

MI Fee Schedules /Economics

MI Fee Schedules /Standards

MI Health Services Research
MI Malpractice /Economics
MI Medicare Part B /Legislation & Jurisprudence
MI Models Econometric
MI Practice Management Medical /Economics
MI Reproducibility of Results
MI Specialties Medical /Economics
MI United States
MI Workload /Classification
MI Workload /Economics

Item: 310

UI 93061437
AU Hsiao WC
AU Braun P
AU Becker ER
AU Dunn DL
AU Kelly N
AU Causino N
AU McCabe MD
AU Rodriguez E
TI Results and impacts of the Resource-Based Relative Value Scale.
SO Med Care 1992 Nov;30(11 Suppl):NS61-79
JT MEDICAL CARE
AD Department of Health Policy and Management, Harvard School of Public Health, Boston, MA.
LA Eng
AB On January 1, 1992, the **Health Care Financing** Administration implemented the 1989 legislation reforming the Medicare payment system for physicians' services. The cornerstone of the new payment reform is the Medicare Fee Schedule (MFS), which is based on the Resource-Based Relative Value Scale (RBRVS). In this article, the major findings of the RBRVS study and its impacts on physician payment are summarized. The authors report the impacts of a RBRVS-based fee schedule on Medicare fees and physicians' income if it were fully implemented, assuming budget neutrality and absence of volume changes in services. Under this scenario, fees for evaluation and management services increase by 15% to 45%, while fees for invasive services and diagnostic tests decrease by 20% to 30%. These changes increase the Medicare income of family practitioners by more than 30% while decreasing the income of most surgical specialties by 10% to 20%.
PT JOURNAL ARTICLE
MJ Fee Schedules /Standards
MJ Income /Statistics & Numerical Data
MJ Medicare Part B /Legislation & Jurisprudence
MJ Relative Value Scales
MJ Specialties Medical /Economics
MI Fee Schedules /Statistics & Numerical Data
MI Program Evaluation
MI Reproducibility of Results

MI Specialties Medical /Statistics & Numerical Data
MI United States
MI Workload /Classification
MI Workload /Economics

Item: 311

UI 93059507
AU Jacobs BB
AU Jacobs LM Jr
TI The effect of the new trauma DRGs on reimbursement.
SO J Trauma 1992 Oct;33(4):495-502; discussion 502-3
JT JOURNAL OF TRAUMA
AD EMS/Trauma Program, Hartford Hospital, CT 06115.
LA Eng
AB Reimbursement for trauma care based on prospective payment has not been satisfactory. The **Health Care Financing** Administration introduced four new Multiple Significant Trauma (MST) DRGs in 1991 with the intention of covering patients who have had at least two body sites injured. To determine the effect if any on reimbursement, a sample of patients who were assigned the new DRGs over a 5-month period were analyzed. The analysis compared the calculated reimbursement for these 49 patients based on their total accumulated charges, DRG weights, and the average Medicare dollar blend along with the additional weight factor specific for the study facility. This analysis was compared with an additional analysis determining the reimbursement performed on the same patient sample but with DRG weights determined from DRGs derived from the 1989 DRG GROUPER/FINDER. During the 5-month study period, 5.5% of the patients discharged from the hospital has sustained at least one injury covered by ICD-9-CM codes. Of these, 49 (3.9%) were classified into one of the four new MST DRGs. The majority of patients were male (75.5%), the mean age was 31.8 years, and the total charges accumulated were \$1,809,192.23. The calculated DRG-based reimbursement was \$1,183,495.40, or 65.5% of the total charges. In the second part of the study, using the DRGs available in 1989 for the same sample of patients, the DRG-based reimbursement was \$691,437.72, or only 38.2% of the accumulated charges.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
MJ Diagnosis-Related Groups /Economics
MJ Medicare /Statistics & Numerical Data
MJ Multiple Trauma /Economics
MJ Prospective Payment System /Economics
MJ Trauma Centers /Economics
MI Diagnosis-Related Groups /Classification
MI Health Care Costs
MI Hospitals Teaching /Economics
MI Hospitals Urban /Economics
MI Human
MI Length of Stay
MI Multiple Trauma /Classification
MI Multiple Trauma /Therapy

MI Outliers DRG
MI United States

Item: 312

UI 93056316

AU Overton DT

AU Kobernick MS

AU Sokolowski P

AU Belcher V

TI Peer review organization payment denials: comparative analysis of emergency department and non-emergency-department admissions.

SO J Emerg Med 1992 Jul-Aug;10(4):401-5

JT JOURNAL OF EMERGENCY MEDICINE

AD Department of Emergency Medicine, Michigan State University, Kalamazoo.

LA Eng

AB The **Health Care Financing** Administration has contracted with regional peer review organizations to review Medicare admissions and to deny payment for hospital admissions that fail to meet peer review organization criteria. The purpose of this study was to compare emergency department admissions with non-emergency-department admissions with respect to rates of peer review organization denial and the reasons for those denials. All hospital Medicare admissions between January 1984 and April 1987 were retrospectively reviewed. Patients were excluded if they received peer review organization pre-authorization prior to admission. The rest were classified by 1) source of admission (emergency department or non-emergency department), 2) peer review organization decision, 3) reason for peer review organization denial, 4) whether the denial was appealed, 5) the results of appeal. Chi-square or Fisher's Exact Test analysis was performed, and P less than 0.05 was considered to be significant. During the 40-month study period, there were 19,847 emergency department Medicare admissions and 19,752 non-emergency-department Medicare admissions. Of the non-emergency-department admissions, 7887 received pre-authorization. None of the emergency department admissions received pre-authorization. Of the 19,847 emergency department admissions, 433 (2.23%) were denied. Of these denials, 269 (60.7%) were appealed by the hospital; 136 (50.5%) successfully. Of the 11,865 non-emergency department, non-pre-authorized admissions, 333 (2.81%) were denied. Of these denials, 174 (52.2%) were appealed, 76 (43.6%) successfully. Overall, emergency department admissions were significantly less likely to receive peer review organization denial than non-emergency-department, non-pre-authorized admissions (P less than 0.003).(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE

MJ Emergency Service Hospital /Economics

MJ Medicare /Economics

MJ Patient Admission /Statistics & Numerical Data

MJ Professional Review Organizations /Economics

MI Comparative Study

MI Emergency Service Hospital /Statistics & Numerical Data

MI Emergency Service Hospital /Utilization
MI Retrospective Studies
MI Severity of Illness Index
MI United States
MI United States** Health Care Financing** Administration
MI Utilization Review

Item: 313

UI 93053638
TI Final CLIA regulations. Clinical Laboratory Improvement Amendments.
SO Health Devices 1992 Nov;21(11):420-5
JT HEALTH DEVICES
LA Eng
AB One clinical pathologist has noted that the broad scope of CLIA means "that every testing situation in the hospital, whether in or out of the laboratory, could now be a liability for ... hospital administration." Portions of CLIA became effective September 1, 1992; thus, it is important that all appropriate personnel are aware of the requirements of CLIA and that all ancillary testing sites are accounted for. CLIA will require unprecedented coordination and cooperation between the clinical laboratory and ancillary sites. Also, clinical laboratories must comply with the sometimes more stringent state regulations and requirements of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and CAP. JCAHO, for example, has regulations specific to blood glucose monitors--regulations that demand a high level of QC, proficiency testing, and documentation. In contrast, CLIA categorizes blood glucose monitoring as a waived test. (This classification has been widely criticized by laboratory organizations, which argue that an erroneous result from a blood glucose monitor could be deadly for the patient.
PT JOURNAL ARTICLE
MJ Laboratories /Legislation & Jurisprudence
MI Diagnosis Laboratory /Standards
MI Human
MI Laboratories /Manpower
MI Laboratories /Standards
MI Laboratory Personnel /Legislation & Jurisprudence
MI Laboratory Personnel /Standards
MI Quality Control
MI United States
MI United States** Health Care Financing** Administration

Item: 314

UI 93042203
AU Jacobsen SJ
AU Cooper C
AU Gottlieb MS
AU Goldberg J
AU Yahnke DP
AU Melton LJ 3d

TI Hospitalization with vertebral fracture among the aged: a national
 population-based study, 1986-1989 [see comments]
 SO Epidemiology 1992 Nov;3(6):515-8
 JT EPIDEMIOLOGY
 AD Department of Health Sciences Research, Mayo Clinic, Rochester, MN
 55905.
 LA Eng
 AB Whereas fractures related to osteoporosis have become a pressing public
 health concern, relatively few epidemiologic studies have focused on
 vertebral fractures. To shed further light on the occurrence of this
 injury, we collected data from the ****Health Care Financing****
 Administration on 151,986 discharges listing a diagnosis of vertebral
 fracture over a 4-year period. After adjusting for age, white women
 experienced the highest rates of discharge, at 17.1 per 10,000 per year,
 followed by white men (9.9 per 10,000), black women (3.7 per 10,000),
 and black men (2.5 per 10,000). Among white women, discharge rates rose
 exponentially from 5.3 discharges per 10,000 population at age 65 to
 nearly 47.8 per 10,000 at age 90. White men, black women, and black men
 experienced less dramatic age-related increases in discharge rates. The
 similarity of these patterns to discharge rates for hip fracture
 suggests that the race-sex differences in vertebral fracture discharge
 rates may be due to differences in the incidence of vertebral fracture.
 PT JOURNAL ARTICLE
 MJ Hospitalization /Statistics & Numerical Data
 MJ Negroid Race
 MJ Osteoporosis /Epidemiology
 MJ Population Surveillance
 MJ Spinal Fractures /Epidemiology
 MI Aged
 MI Aged 80 and over
 MI Cross-Sectional Studies
 MI Female
 MI Human
 MI Incidence
 MI Male
 MI Medicare /Statistics & Numerical Data
 MI Patient Discharge /Statistics & Numerical Data
 MI Risk Factors
 MI Support U S Govt P H S
 MI United States /Epidemiology

Item: 315

UI 93027821
 AU McDermott JE
 TI ****Health care financing****: the real issues [editorial]
 SO Orthopedics 1992 Oct;15(10):1135-7
 JT ORTHOPEDICS
 LA Eng
 PT EDITORIAL
 MJ Financing Organized

MJ Health Care Costs
MI American Medical Association
MI Human
MI Reimbursement Mechanisms
MI Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 316

UI 93027027
AU Nathenson P
AU Johnson C
TI The psychiatric treatment plan.
SO Perspect Psychiatr Care 1992 Jul-Sep;28(3):32-5
JT PERSPECTIVES IN PSYCHIATRIC CARE
LA Eng
AB How the treatment planning process is developed and documented in clinical settings is often influenced by various accreditation processes. As healthcare organizations attempt to incorporate written findings and verbal recommendations of surveyors, an incremental approach to the treatment plan often results. The authors describe how they attempted to alleviate this problem by devising a conceptual framework for the treatment planning process using current HCFA and JCAHO standards and data obtained by reviewing treatment plans from almost 100 psychiatric hospitals.
PT JOURNAL ARTICLE
MJ Models Nursing
MJ Patient Care Planning /Standards
MJ Psychiatric Nursing /Standards
MI Human
MI Joint Commission on Accreditation of Healthcare Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 317

UI 93026519
AU Harrop DE
TI HCFA and the political scene.
SO Pa Med 1992 Sep;95(9):34
JT PENNSYLVANIA MEDICINE
LA Eng
AB Will the fact that this is a presidential election year affect the philosophy and direction of the **Health Care Financing** Administration as it relates to **health care financing** in general and the peer review organization program in particular? Perhaps.
PT JOURNAL ARTICLE
MJ United States** Health Care Financing** Administration
MI Professional Review Organizations
MI United States

Item: 318

UI 93026518
AU Moskal DC
TI HCFA takes on "hassle factor".
SO Pa Med 1992 Sep;95(9):32
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Organization & Administration
MI United States
MI United States** Health Care Financing** Administration

Item: 319

UI 93026514
AU Harrop DE
TI Possible changes in store for PRO program.
SO Pa Med 1992 Jul;95(7):34
JT PENNSYLVANIA MEDICINE
LA Eng
AB Some drastic changes in the peer review organization (PRO) program have been proposed by the **Health Care Financing** Administration in recent months. Some of them are good, but, as we see them, some could cause problems for PROs, hospitals, and physicians.
PT JOURNAL ARTICLE
MJ Professional Review Organizations /Legislation & Jurisprudence
MI Human
MI Pennsylvania
MI Quality Assurance Health Care /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 320

UI 93026504
AU Harrop DE
TI KePRO's community outreach programs.
SO Pa Med 1992 Oct;95(10):46
JT PENNSYLVANIA MEDICINE
LA Eng
AB The Keystone Peer Review Organization board of directors and management have always taken pride in knowing that individually and as a group they have put forth extra effort to assure maximum efficiency and fairness in the review system. Another source of pride to the organization is our Community Outreach Program which we think is one of the finest and most progressive in the country. While such a program is required under our contract with the **Health Care Financing** Administration (HCFA), we saw the need to go beyond the HCFA requirements.
PT JOURNAL ARTICLE
MJ Health Services for the Aged
MJ Medicare

MJ Professional Review Organizations
MI Human
MI Pennsylvania
MI United States
MI United States** Health Care Financing** Administration

Item: 321

UI 93024140
AU Weissert WG
AU Musliner MC
TI Case mix adjusted nursing-home reimbursement: a critical review of the evidence.
SO Milbank Q 1992;70(3):455-90
JT MILBANK QUARTERLY
AD Department of Health Services Management and Policy, School of Public Health, University of Michigan, Ann Arbor 48109-2029.
LA Eng
AB Nursing-home case mix adjusted payment systems typically base payments on estimates of patients' care needs, but to date the data on their effectiveness are ambiguous. Studies mainly show that access for patients most in need of care appears to improve under these systems. Case mix based payment systems have both positive and negative effects on quality of care and require compensating mechanisms for the potentially harmful incentives they can generate. On the positive side, nursing homes are paid more equitably; the negative aspect is reflected in higher costs, particularly for administration. A **Health Care Financing** Administration (HCFA) demonstration project may provide insights, but its limited number of predominantly small, rural, participating states, its tandem quality assurance system, and potentially confounding market variables may restrict the value of this project. We do not yet have the data to assess the impact of instituting case mix adjustment systems.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Diagnosis-Related Groups /Classification
MJ Nursing Homes /Economics
MJ Reimbursement Mechanisms /Economics
MI Cost-Benefit Analysis
MI Costs and Cost Analysis
MI Diagnosis-Related Groups /Economics
MI State Health Plans /Economics
MI United States

Item: 322

UI 93018922
AU Zuber TJ
AU Purvis JR
TI Coding and reimbursement of primary care biopsy and destruction procedures [see comments]

SO J Fam Pract 1992 Oct;35(4):433-41
 JT JOURNAL OF FAMILY PRACTICE
 AD Department of Family Medicine, East Carolina University School of
 Medicine, Greenville, NC 27858-4354.
 LA Eng
 AB Current medical practice requires physicians to accurately report
 services provided to patients. Billing for destruction of benign and
 malignant lesions and for surgical, needle, and endoscopic biopsy
 procedures involves the selection of specific 1992 Current Procedural
 Terminology (CPT) codes. Payment for these procedures by third-party
 payers often requires the International Classification of Diseases, 9th
 Revision, Clinical Modification (ICD-9-CM) coding for neoplastic
 lesions. This review explains the proper codes to use in identifying
 common biopsy and destruction procedures performed by primary care
 physicians. The **Health Care Financing** Administration's relative
 value units and one state's published Medicaid payment rates are
 included for each procedure code. Instructions for selecting
 site-specific biopsy and destruction codes are provided.
 PT JOURNAL ARTICLE
 MJ Abstracting and Indexing
 MJ Biopsy /Economics
 MJ Insurance Claim Reporting /Classification
 MJ Insurance Health Reimbursement /Classification
 MJ Surgery Operative /Economics E4 E4.0
 MI Biopsy /Classification
 MI Biopsy Needle /Classification
 MI Biopsy Needle /Economics
 MI Biopsy Needle /Methods
 MI Endoscopy /Classification
 MI Human
 MI Medicaid /Economics
 MI Medicare /Economics
 MI Neoplasms /Economics C4 C4.0
 MI Neoplasms /Surgery C4 C4.0
 MI North Carolina
 MI Primary Health Care /Classification
 MI Primary Health Care /Economics
 MI Surgery Operative /Classification E4 E4.0
 MI United States

Item: 323

UI 93016216
 AU Yomtovian R
 AU Kruskall MS
 AU Barber JP
 TI Autologous-blood transfusion: the reimbursement dilemma.
 SO J Bone Joint Surg [Am] 1992 Sep;74(8):1265-72
 JT JOURNAL OF BONE AND JOINT SURGERY. AMERICAN VOLUME
 AD Department of Pathology, University Hospitals of Cleveland, Ohio 44106.
 LA Eng

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Blood Transfusion Autologous /Economics
MJ Reimbursement Mechanisms
MI Human
MI Medicare
MI United States
MI United States** Health Care Financing** Administration

Item: 324

UI 93013450
AU Colby DC
TI Impact of the Medicare physician fee schedule.
SO Health Aff (Millwood) 1992 Fall;11(3):216-26
JT HEALTH AFFAIRS
AD Physician Payment Review Commission, Washington, D.C.
LA Eng
PT JOURNAL ARTICLE
MJ Fee Schedules
MJ Medicare Part B /Statistics & Numerical Data
MJ Medicare Part B /Standards
MJ Relative Value Scales
MJ Specialties Medical /Economics
MI Evaluation Studies
MI Human
MI Reimbursement Mechanisms /Economics
MI Residence Characteristics
MI Specialties Medical /Statistics & Numerical Data
MI United States
MI United States** Health Care Financing** Administration

Item: 325

UI 93012758
AU Frank BB
TI A/S/G/E presidential address--1992 [editorial]
SO Gastrointest Endosc 1992 Sep-Oct;38(5):630-1
JT GASTROINTESTINAL ENDOSCOPY
LA Eng
PT EDITORIAL
MJ Endoscopy Gastrointestinal
MJ Societies Medical
MI Human
MI Professional Review Organizations
MI Reimbursement Mechanisms
MI Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 326

UI 93012691
 AU Sonnenberg A
 AU Wasserman IH
 AU Jacobsen SJ
 TI Monthly variation of hospital admission and mortality of peptic ulcer disease: a reappraisal of ulcer periodicity.
 SO Gastroenterology 1992 Oct;103(4):1192-8
 JT GASTROENTEROLOGY
 AD Clement J. Zablocki Veterans Affairs Medical Center, Milwaukee, Wisconsin.
 LA Eng
 AB The occurrence of peptic ulcer is characterized by a seasonal variation, the meaning of which is poorly understood. The present study examined the periodicity of hospital admissions and mortality resulting from gastric and duodenal ulcer to determine its etiologic relevance. Ulcer periodicity was studied in the nationwide data sets of the Department of Veterans Affairs, the **Health Care Financing** Administration, and the Vital Statistics. Both ulcer types were characterized by similar patterns of periodicity. Hospital admissions peaked during the first 3 months of the year, followed by a marked decline during summer and a second smaller peak around October. This pattern occurred independently of age, sex, race, and place of residence. It also pertained to ulcers complicated by hemorrhage or perforation. Although total admissions peaked earlier during the year and showed a less consistent peak in October, there was a close resemblance between the periodicity of all diseases and that of peptic ulcer. Mortality was highest in January and lowest in July for all disease and ulcer diseases alike. The similarity between the periodicity of peptic ulcer and other diseases suggests that the major factors responsible for the cyclic behavior of gastric and duodenal ulcer are not particular to these diseases but affect other unrelated diseases alike.
 PT JOURNAL ARTICLE
 MJ Peptic Ulcer /Epidemiology
 MJ Periodicity
 MI Hospitalization
 MI Human
 MI Peptic Ulcer /Mortality
 MI Seasons

Item: 327

UI 93003428
 AU McMahon LF Jr
 AU Petroni GR
 AU Tedeschi PJ
 AU McLaughlin CG
 TI Changing patterns of hospital use for patients with musculoskeletal disease in Michigan, 1980 to 1987.
 SO Arthritis Care Res 1992 Jun;5(2):111-5
 JT ARTHRITIS CARE AND RESEARCH
 LA Eng

AB Over the past 10 years there have been dramatic changes in **health care financing** in the United States, such as Medicare's Prospective Payment System for hospitalized Medicare beneficiaries, and in health services delivery, such as the growth in health maintenance organizations and other forms of managed care. These changes have occurred largely in response to payors' concerns about the rising cost of health care. A study of such changes in financing and delivery, and how specific groups of patients are affected is necessary so that the effects of these changes on patients' health can be determined. We examined the hospitalization rates for patients with musculoskeletal diseases in Michigan from 1980 through 1987. During this period, the overall age-adjusted hospitalization rates decreased 7.0% per year ($p = 0.001$). The decrease occurred less for surgical discharges (6.0% per year) than for medical discharges (8.6% per year) ($p < 0.001$). While these overall trends are of interest, they obscure disease-specific trends that vary significantly from both the overall, and the medical and surgical trends. For example, while surgical discharges, in general declined, procedures related to major joint and limb reattachment (DRG #209) increased at a rate of 6.3% per year. And while medical discharges in general decreased over this period, discharges for osteomyelitis increased 5.4% per year. The patterns of disease-specific trends offers insight into the possible causes for these changes. Finally, it is important to understand the epidemiology of hospital use to evaluate the effects of new medical care delivery and payment systems on the care of subsets of patients.

PT JOURNAL ARTICLE

MJ Musculoskeletal Diseases /Epidemiology C5 C5.0

MJ Patient Discharge /Statistics & Numerical Data

MI Age Factors

MI Diagnosis-Related Groups

MI Health Services Research

MI Human

MI Michigan /Epidemiology

MI Patient Discharge /Trends

MI Support U S Govt P H S

Item: 328

UI 92241845

AU Lumsdon K

AU Anderson HJ

AU Burke M

TI New surgical technologies reshape hospital strategies.

SO Hospitals 1992 May 5;66(9):30-6, 38, 40-2

JT HOSPITALS

LA Eng

AB New technologies are rapidly transforming hospital surgery, shifting a majority of procedures to outpatient settings and cutting stays for inpatients. This shift is forcing hospitals to re-evaluate physician privileging, surgical staffing and scheduling, facility planning and strategic planning. Meanwhile, the **Health Care Financing**

Administration's efforts to reform Medicare's payment system for outpatient surgery and other ambulatory procedures is on a slower track.

PT JOURNAL ARTICLE
MJ Ambulatory Surgery /Trends
MJ Surgery Department Hospital /Trends
MJ Surgery Operative /Trends E4 E4.0
MI Ambulatory Surgery /Economics
MI Ambulatory Surgery /Statistics & Numerical Data
MI Data Collection
MI Hospital-Physician Joint Ventures /Organization & Administration
MI Laparoscopy /Economics
MI Laparoscopy /Instrumentation
MI Laparoscopy /Trends
MI Medical Staff Privileges /Standards
MI Medical Staff Privileges /Trends
MI Medicare /Economics
MI Planning Techniques
MI Prospective Payment System /Trends
MI Surgery Department Hospital /Organization & Administration
MI Surgery Operative /Economics E4 E4.0
MI Surgical Equipment /Trends
MI Technology Assessment Biomedical
MI United States
MI United States** Health Care Financing** Administration

Item: 329

UI 91307854
AU Alter MJ
AU Favero MS
AU Moyer LA
AU Bland LA
TI National surveillance of dialysis-associated diseases in the United States, 1989.
SO ASAIO Trans 1991 Apr-Jun;37(2):97-109
JT ASAIO TRANSACTIONS
AD Hepatitis Branch, Centers for Disease Control, Public Health Service, Department of Health and Human Services, Atlanta, Georgia 30333.
LA Eng
AB To determine trends in a variety of dialysis-associated diseases and practices, the Centers for Disease Control surveyed 1,867 chronic hemodialysis centers in the United States in 1989 in conjunction with the annual facility survey performed by the **Health Care Financing** Administration. The response rate to a mailed questionnaire was 92%. These 1,726 centers represented 122,734 patients and 32,486 staff members. The following results were found. 1) During the last 14 years, the incidence of hepatitis B virus (HBV) infection decreased from 3.0 to 0.1% among patients, and from 2.6 to 0.1% among staff members. Over the same time, the prevalence of hepatitis B surface antigen (HBsAg) positivity declined from 7.8 to 1.4% among patients and from 0.9 to 0.3% among staff members. Hepatitis B vaccine was given by 92% of the

centers. By the end of 1989, 19% of susceptible patients and 55% of susceptible staff members had received all three doses of hepatitis B vaccine. From 1982 to 1989, as a result of receiving vaccine, the prevalence of antibody to HBsAg (anti-HBs) increased from 12 to 19% among patients and from 18 to 54% among staff. The incidence of non-A, non-B hepatitis in 1989 was reported to be 0.7% among patients and 0.1% among staff members. 2) Twenty-two percent of the centers reported pyrogenic reactions in the absence of septicemia among their patients, and 51% reported septicemia. 3) The reported incidence of dialysis dementia among hemodialysis patients was 0.2%, with a case fatality rate of 23%. 4) In 1989, 68% of centers reported that they reused disposable dialyzers; these centers treated 73% of the dialysis patient population. Among centers that reused disposable dialyzers, the average number of reuses ranged from 1 to 50 (mean, 12) and the maximum number of times a disposable dialyzer was ever reused ranged from 3 to 150 (mean, 28). Chemical germicides used for reprocessing dialyzers included formaldehyde, Renalin (a peracetic acid-hydrogen peroxide-based germicide), and glutaraldehyde-based germicides. Reuse of disposable dialyzers was not associated with any increased risk of acquiring HBV infection among either patients or staff. However, pyrogenic reactions occurring in clusters were reported more frequently in centers that reused conventional dialyzer membranes compared with centers that did not. This increased risk was associated only with centers that used Renalin or glutaraldehyde for reprocessing (not formaldehyde) and occurred with both automated and manual reprocessing systems.(ABSTRACT TRUNCATED AT 400 WORDS)

PT JOURNAL ARTICLE
 MJ Health Surveys
 MJ Hemodialysis /Adverse Effects
 MJ Hepatitis Viral Human /Epidemiology
 MJ HIV Infections /Epidemiology
 MI Dementia /Epidemiology
 MI Dementia /Etiology
 MI Fever /Epidemiology
 MI Fever /Etiology
 MI Hemodialysis /Instrumentation
 MI Hemodialysis /Methods
 MI Hepatitis B /Diagnosis
 MI Hepatitis B /Epidemiology
 MI Hepatitis B /Etiology
 MI Hepatitis B /Prevention & Control
 MI Hepatitis C /Epidemiology
 MI Hepatitis C /Etiology
 MI Human
 MI HIV Infections /Etiology
 MI Prevalence
 MI Septicemia /Epidemiology
 MI Septicemia /Etiology
 MI Serodiagnosis
 MI United States /Epidemiology

MI Viral Hepatitis Vaccines

Item: 330

UI 92410474
AU Ward ME
AU Armour DB
TI The changing role of the chief financial officer.
SO Top Health Care Financ 1992 Fall;19(1):79-88
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Organization & Administration
MJ Hospital Administrators /Trends
MJ Role
MI Capital Financing /Trends
MI Human
MI Interinstitutional Relations
MI Marketing of Health Services /Trends
MI Organizational Objectives
MI Planning Techniques
MI Reimbursement Mechanisms /Trends

Item: 331

UI 92410473
AU Milligan DL
AU Witek JE
TI Ensuring survival: quantifying and implementing the mission/financial trade-off.
SO Top Health Care Financ 1992 Fall;19(1):7-13
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures
MJ Financial Management Hospital /Organization & Administration
MJ Hospitals Voluntary /Economics
MJ Organizational Objectives
MJ Social Responsibility
MI Accounting /Standards
MI Financial Management Hospital /Economics
MI Investments /Standards
MI Models Econometric
MI United States

Item: 332

UI 92410472
AU Federa RD
AU Miller TR
TI Capital allocation techniques.
SO Top Health Care Financ 1992 Fall;19(1):68-78
JT TOPICS IN **HEALTH CARE FINANCING**

LA Eng
PT JOURNAL ARTICLE
MJ Capital Financing /Organization & Administration
MJ Financial Management Hospital /Methods
MJ Multi-Institutional Systems /Economics
MI Capital Expenditures
MI Hospital Planning /Economics
MI Maintenance and Engineering Hospital /Economics
MI Organizational Objectives /Economics
MI Planning Techniques
MI United States

Item: 333

UI 92410471
AU Widman JP
TI Project risk evaluation in a multihospital system.
SO Top Health Care Financ 1992 Fall;19(1):58-67
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures /Standards
MJ Decision Making Organizational
MJ Financial Management Hospital /Methods
MJ Multi-Institutional Systems /Economics
MJ Risk
MI Capital Financing
MI Catholicism
MI Economic Competition
MI Feasibility Studies
MI Hospitals Religious /Economics
MI Hospitals Religious /Organization & Administration
MI Investments /Economics
MI Product Line Management /Economics
MI United States

Item: 334

UI 92410470
AU Horowitz JL
AU Straley PF
AU Kelly MP
TI Management decisions and financial capability.
SO Top Health Care Financ 1992 Fall;19(1):52-7
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures
MJ Decision Making Organizational
MJ Financial Management Hospital /Methods
MJ Investments /Economics
MI Accounting

MI Capital Financing
MI Feasibility Studies
MI Forecasting
MI Risk
MI United States

Item: 335

UI 92410469
AU Clouse ML
TI Balancing growth, financial policies, and board objectives: a sustainable growth model for health care organizations.
SO Top Health Care Financ 1992 Fall;19(1):46-51
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Methods
MJ Hospital Planning /Economics
MJ Hospitals Voluntary /Economics
MJ Models Econometric
MJ Organizational Objectives
MI Capital Expenditures
MI Capital Financing
MI Governing Board
MI Organizational Policy
MI United States

Item: 336

UI 92410468
AU Porter M
AU Miller TR
TI Uses and abuses of financial modeling.
SO Top Health Care Financ 1992 Fall;19(1):34-45
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures
MJ Financial Management Hospital /Methods
MJ Investments /Economics
MJ Models Econometric
MI Decision Making Organizational
MI Financial Audit
MI Planning Techniques
MI United States

Item: 337

UI 92410467
AU Clark CS
AU Kleiman MA
TI Tools of financial analysis: risk, return, and incremental analysis.
SO Top Health Care Financ 1992 Fall;19(1):26-33

JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures /Standards
MJ Feasibility Studies
MJ Financial Management Hospital /Methods
MJ Investments /Economics
MJ Risk
MI Decision Making Organizational
MI Hospitals Voluntary /Economics
MI Models Econometric
MI United States

Item: 338

UI 92410466
AU Straley PF
AU Schuster TB
TI Evaluation criteria: a framework for decision making.
SO Top Health Care Financ 1992 Fall;19(1):14-25
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Capital Expenditures /Standards
MJ Decision Making Organizational
MJ Financial Management Hospital /Standards
MJ Hospital Planning /Organization & Administration
MI Documentation /Standards
MI Evaluation Studies
MI Feasibility Studies
MI Financial Management Hospital /Economics
MI Financial Management Hospital /Organization & Administration
MI Hospital Planning /Economics
MI Hospitals Voluntary /Economics
MI Investments /Standards
MI Organizational Objectives
MI Planning Techniques
MI United States

Item: 339

UI 92410465
TI Capital management.
SO Top Health Care Financ 1992 Fall;19(1):1-88
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT OVERALL
MJ Capital Financing /Organization & Administration
MJ Financial Management Hospital

Item: 340

UI 92410464

AU Ryan JB
 AU Ward ME
 TI Capital management: an overview.
 SO Top Health Care Financ 1992 Fall;19(1):1-6
 JT TOPICS IN **HEALTH CARE FINANCING**
 LA Eng
 PT JOURNAL ARTICLE
 MJ Capital Financing /Organization & Administration
 MJ Financial Management Hospital /Methods
 MI Capital Expenditures
 MI Charities /Economics
 MI Decision Making Organizational
 MI Governing Board
 MI Hospital Administrators
 MI Hospitals Voluntary /Economics
 MI Investments /Organization & Administration
 MI Models Econometric
 MI Organizational Objectives
 MI Role
 MI United States

Item: 341

UI 92409904
 AU Wingert TD
 AU Christianson JB
 AU Moscovice IS
 TI Quality assurance issues raised by proposed limited-service rural hospitals.
 SO Qual Assur Util Rev 1991 Summer;6(2):38-46
 JT QUALITY ASSURANCE AND UTILIZATION REVIEW
 AD Division of Health Services Research and Policy, School of Public Health, University of Minnesota, Minneapolis 55455.
 LA Eng
 AB This article explores quality assurance issues that are likely to arise related to limited-service rural hospitals, an institutional alternative to existing rural hospitals. In exploring these issues, we use as an example, the Montana Medical Assistance Facility, a limited-service rural hospital model about to be implemented by the **Health Care Financing** Administration as a demonstration. While such medical assistance facilities will need to meet licensure and certification requirements, it is not reasonable to expect them to meet regulations that are designed for large hospitals. Also, because of their limited resources, medical assistance facilities will likely need outside help from a larger institution to perform quality assurance activities, particularly peer review activities. A key challenge for the medical assistance facility will be to define the nature of this relationship, while retaining ultimate responsibility for quality of patient care. Assuring quality of care is a particularly important issue for medical assistance facilities since community acceptance and financial viability will depend critically on establishing a record for quality of care that

is at least comparable to existing small, rural hospitals.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Hospitals Rural /Standards
MJ Medically Underserved Area
MJ Quality Assurance Health Care /Organization & Administration
MI Hospital Bed Capacity under 100
MI Hospital Shared Services
MI Licensure Hospital
MI Montana
MI Pilot Projects
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration

Item: 342

UI 92409431
AU Scheinman MM
TI Catheter ablation for cardiac arrhythmias, personnel, and facilities.
North American Society of Pacing and Electrophysiology Ad Hoc Committee
on Catheter Ablation.
SO PACE Pacing Clin Electrophysiol 1992 May;15(5):715-21
JT PACE. PACING AND CLINICAL ELECTROPHYSIOLOGY
AD Moffitt Hospital, University of California, San Francisco 94143.
LA Eng
PT JOURNAL ARTICLE
MJ Arrhythmia /Surgery
MJ Electrocoagulation
MJ Insurance Health Reimbursement
MI Electrocoagulation /Economics
MI Human
MI Radio Waves
MI Registries
MI United States
MI United States** Health Care Financing** Administration

Item: 343

UI 92397893
AU Hazlet TK
AU Hu TW
TI Association between formulary strategies and hospital drug expenditures.
SO Am J Hosp Pharm 1992 Sep;49(9):2207-10
JT AMERICAN JOURNAL OF HOSPITAL PHARMACY
AD California Department of Health Services, Sacramento.
LA Eng
AB National survey data were analyzed to determine whether an association
existed between formulary strategies and hospital drug expenditures.
Data on community hospitals were obtained from (1) ASHP's 1987 national
survey of pharmaceutical services, (2) the American Hospital

Association, and (3) the **Health Care Financing** Administration. Along with size, case mix, and salary information, data were collected on whether the hospitals used a well-controlled formulary, whether they used therapeutic interchange, and how much money they spent on drugs. A logarithmic cost-function model was used to obtain a straight-line equation that expressed the relationships between drug cost per patient day and the other variables assessed. Summary statistics were calculated with data from 514 hospitals. The adjusted coefficient of multiple determination indicated that the model was able to explain 24.6% of the observed variation in drug cost per patient day. A significant association was found between decreased costs and a well-controlled formulary, therapeutic interchange, or both. Hospitals that used either strategy spent 10.7% less for drugs than those that used neither. Hospitals that used both strategies spent 13.4% less than those that used neither. Analysis of national survey data suggests that use of a well-controlled formulary, therapeutic interchange, or both are associated with lower pharmacy drug expenditures.

PT JOURNAL ARTICLE
MJ Drug Costs
MJ Formularies Hospital
MI Data Collection
MI Human
MI United States

Item: 344

UI 92390628
AU Willan AR
AU Ross W
AU Mackenzie TA
TI Comparing in-patient classification systems: a problem of non-nested regression models.
SO Stat Med 1992 Jul;11(10):1321-31
JT STATISTICS IN MEDICINE
AD Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, Ontario, Canada.
LA Eng
AB Since 1983, hospitals in the United States have been receiving prospective payment for their in-hospital patient admissions covered under Medicare. Under such schemes each patient is placed in a group by a classification system, known as the Diagnosis Related Groups (DRG), and the hospital is reimbursed by the **Health Care Financing** Administration according to some predetermined group average, adjusted for hospital level characteristics, such as size, location and teaching activity. Recent interest has focused on refining the DRG system or considering totally different systems of classification. Studies designed to compare the ability of different systems to account for between-patient variability in resource consumption in the same dataset lead to the problem of model selection between large non-nested regressions, where resource consumption, measured by length of hospital stay or costs, is regressed on dummy-indicator variables representing

different patient groups. We use a simple measure of fit to develop a symmetric test of the null hypothesis that the two systems account equally well for variability in resource consumption. With this method, unlike methods such as Akaike's AIC criterion, we can quantify the probability of a false positive, and thereby limit the probability of choosing one system over another when it is no better at accounting for variability in resource consumption.

PT JOURNAL ARTICLE
MJ Inpatients /Classification
MJ Linear Models
MI Comparative Study
MI Diagnosis-Related Groups
MI Human
MI United States

Item: 345

UI 92381252
AU Elon R
AU Pawlson LG
TI The impact of OBRA on medical practice within nursing facilities [see comments]
SO J Am Geriatr Soc 1992 Sep;40(9):958-63
JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY
AD Department of Health Care Sciences, George Washington University School of Medicine, Washington, DC.
LA Eng
AB Major changes in the federal oversight of nursing home care were passed by Congress and became law as the Nursing Home Reform Amendments of the Omnibus Budget Reconciliation Act of 1987 (OBRA 87). The final regulations to implement OBRA 87 were published in September, 1991. The intent of this article is to provide an overview of selected parts of the nursing home reform regulations, which have a direct impact on physician practice within nursing facilities, and to offer strategies for successful management of the changes that are required. A brief review of the origins of the legislation and the process by which law is turned into practice is provided as a context in which to understand the changes mandated by the Nursing Home Reform Amendments of OBRA 87.

PT JOURNAL ARTICLE
MJ Legislation Medical
MJ Nursing Homes /Legislation & Jurisprudence
MI Health Policy /Legislation & Jurisprudence
MI Human
MI Quality of Health Care
MI Restraint Physical /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 346

UI 92380622

AU Koska MT
TI HCFA's bundled CABG payment project yields results, insights.
SO Hospitals 1992 Sep 5;66(17):46, 48, 50
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Cardiology Service Hospital /Economics
MJ Coronary Artery Bypass /Economics
MJ Medicare /Economics
MJ Reimbursement Mechanisms
MI Cost-Benefit Analysis
MI Fees Medical
MI Human
MI Medical Staff Hospital /Economics
MI Pilot Projects
MI United States
MI United States** Health Care Financing** Administration

Item: 347

UI 92376178
AU Evens RG
TI New relative-value scale for Medicare: an update.
SO Radiology 1992 Sep;184(3):641-5
JT RADIOLOGY
AD Mallinckrodt Institute of Radiology, Washington University School of
Medicine, St Louis, MO 63110.
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Health Reimbursement
MJ Medicare /Economics
MJ Radiology /Economics
MJ Relative Value Scales
MI Epidemiology
MI Fees and Charges
MI Human
MI Specialties Medical
MI United States
MI United States** Health Care Financing** Administration

Item: 348

UI 92375209
AU Loschen DJ
TI "Bite the bullet".
SO Nebr Med J 1992 Aug;77(8):229
JT NEBRASKA MEDICAL JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Fees Medical
MJ Forms and Records Control
MJ Medical Records

MJ Relative Value Scales
MI Medicare
MI Reimbursement Mechanisms
MI United States
MI United States** Health Care Financing** Administration

Item: 349

UI 92372831
AU Weis KA
TI Effectiveness and outcomes research--data sources with potential for nursing research.
SO J Prof Nurs 1992 Jul-Aug;8(4):201
JT JOURNAL OF PROFESSIONAL NURSING
AD Center for Medical Effectiveness Research, Agency for Health Care Policy and Research, Rockville, MD 20852-4908.
LA Eng
PT JOURNAL ARTICLE
MJ Nursing Administration Research
MJ Outcome and Process Assessment Health Care
MI Medicare
MI United States
MI United States** Health Care Financing** Administration

Item: 350

UI 92370599
AU Meskin LH
AU Mason LD
TI Problems in oral **health care financing** for the elderly.
SO Clin Geriatr Med 1992 Aug;8(3):685-92
JT CLINICS IN GERIATRIC MEDICINE
AD School of Dentistry, University of Colorado Health Sciences Center, Denver 80262.
LA Eng
AB The oral health of America's aged has improved dramatically. As the number of elderly swell, their collective need and demand for comprehensive dental services will increase significantly. Payment for those services will pose problems for many, because few options exist for financing dental care among the elderly. Currently most charges are covered by individuals out-of-pocket. Although more older people than ever before have sufficient funds to include dental visits in their health services use, a large proportion of the elderly lack the personal resources necessary to have their numerous dental conditions treated. Innovation is critical. Greater public and private sector support for accessible and affordable dental services must be offered in the future to ensure that the oral health gains of the past decades are not lost because of a lack of financial mechanisms for supporting an adequate level of care.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL

MJ Dental Care for Aged /Economics
MJ Financing Organized
MI Aged
MI Aged 80 and over
MI Dental Care for Aged /Utilization
MI Female
MI Financing Organized /Economics
MI Human
MI Male
MI United States

Item: 351

UI 92364645
AU Brouillette JN
TI R & R fatigue.
SO J Fla Med Assoc 1992 Jul;79(7):480-1
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
LA Eng
PT JOURNAL ARTICLE
MJ Health Services /Legislation & Jurisprudence
MI Joint Commission on Accreditation of Healthcare Organizations
/Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration /Legislation &
Jurisprudence
MI United States Occupational Safety and Health Administration /Legislation
& Jurisprudence

Item: 352

UI 92363740
AU Krakauer H
AU Bailey RC
AU Skellan KJ
AU Stewart JD
AU Hartz AJ
AU Kuhn EM
AU Rimm AA
TI Evaluation of the HCFA model for the analysis of mortality following
hospitalization.
SO Health Serv Res 1992 Aug;27(3):317-35
JT HEALTH SERVICES RESEARCH
AD Department of Preventive Medicine and Biometrics, Uniformed Services
University of the Health Sciences, Bethesda, MD 20814-4799.
LA Eng
AB From 1987 through 1990, the **Health Care Financing** Administration
(HCFA) evaluated variations in the mortality rates experienced by
patients admitted to hospitals participating in the Medicare program.
This study was conducted to evaluate the adequacy of the model used for
that purpose. Detailed clinical data were gathered on 42,773 patients
admitted to 84 statistically selected hospitals. The effect of risk

adjustment using the HCFA model, which is based on claims data, was compared to a risk-adjustment model based on physiologic and clinical data. Models that include claims data were markedly superior to those containing only demographic characteristics in predicting the probability of patient death, and the addition of clinical data resulted in further improvement. The correlation of ranks of hospitals based on a model that uses only the claims data and on one that uses, in addition, clinical data, was .91. As a screen for the identification of "high (mortality) outlier" hospitals, the claims model had moderate sensitivity (81 percent) and specificity (79 percent), a high negative predictive value (90 percent), and a low positive predictive value (64 percent) when compared to the clinical model. The two mortality models gave similar results when used to determine which structural characteristics of hospitals were related to mortality rates: hospitals with a higher proportion of registered nurses or board-certified physician specialists, or with a greater level of access to high-technology equipment had lower risk-adjusted mortality rates. These data suggest that the current claims-based risk-adjustment procedure may satisfactorily be used to characterize variations in mortality rates associated with hospitalization. The procedure could also be used as a basis for further epidemiological analyses of factors that affect the probability of patient death. However, it does not positively identify outlier hospitals as providers of problematic care.

PT JOURNAL ARTICLE
 MJ Health Services Research /Methods
 MJ Hospital Mortality
 MJ Models Statistical
 MI Comparative Study
 MI Evaluation Studies
 MI Hospitals /Classification
 MI Human
 MI Insurance Claim Reporting /Statistics & Numerical Data
 MI Logistic Models
 MI Medical Records /Statistics & Numerical Data
 MI Medicare /Statistics & Numerical Data
 MI Probability
 MI Risk Factors
 MI United States /Epidemiology
 MI United States** Health Care Financing** Administration

Item: 353

UI 92363739
 AU Buczko W
 TI Factors affecting interstate use of inpatient care by Medicare beneficiaries.
 SO Health Serv Res 1992 Aug;27(3):295-315
 JT HEALTH SERVICES RESEARCH
 AD Office of Research, **Health Care Financing** Administration, Baltimore, MD 21207.
 LA Eng

AB This article examines the extent to which interstate inflow and outflow of patients affects their observed use of Medicare Part A inpatient care. Interstate patient flow can bias utilization rates and may be due to seasonal migration, interstate inpatient care market areas, or purposive seeking of specialized/high-quality care. Examination of state level patient flow data drawn from 1987 Medicare discharge indicate that most interstate patient flow occurs between adjacent states probably as an outgrowth of interstate markets. Regression analyses of patient flow data suggest that while seasonal migration is an important determinant of patient flow, its importance is secondary to that of indicators of the availability of specialized services. These findings suggest research questions that may be best answered in detailed analyses of inpatient utilization in interstate market areas and seasonal migration.

PT JOURNAL ARTICLE

MJ Catchment Area Health

MJ Hospitals /Utilization

MJ Insurance Benefits /Trends

MJ Medicare Part A /Utilization

MI Aged

MI Health Services Research

MI Human

MI Inpatients /Statistics & Numerical Data

MI Insurance Benefits /Statistics & Numerical Data

MI Medicare Part A /Statistics & Numerical Data

MI Patient Admission /Statistics & Numerical Data

MI Patient Admission /Trends

MI Patient Discharge /Statistics & Numerical Data

MI Patient Discharge /Trends

MI Prognosis

MI Regression Analysis

MI Seasons

MI Transients and Migrants /Statistics & Numerical Data

MI Transportation

MI United States

Item: 354

UI 92359671

AU Engebretson MJ

AU Cembrowski GS

TI Achieving the **Health Care Financing** Administration limits by quality improvement and quality control. A real-world example.

SO Arch Pathol Lab Med 1992 Jul;116(7):781-7

JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE

AD Park Nicollet Medical Center, Minneapolis, Minn. 55416.

LA Eng

AB With the enactment of the Clinical Laboratory Improvement Amendments of 1988 (CLIA 88), the federal government is now using proficiency testing as the primary indicator of laboratory quality. Laboratories with proficiency test failures are now at risk of a variety of harsh

penalties including large monetary fines and suspension of operations. To minimize the risk of failed proficiency testing, we initiated a continuous quality improvement program in our general chemistry laboratory in conjunction with the use of a new survey-validated quality control product. This article describes the quality improvement program and our success in reducing the long-term random error in general chemistry. Despite our improvement program, significant analytical errors (greater than 30% of the CLIA limits) still exist in analytes measured by our chemistry analyzer. These errors are present in nearly the same analytes measured by other common chemistry analyzers indicating the need for improvement in their design and manufacture.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Quality of Health Care /Economics
MJ Quality of Health Care /Standards
MJ United States** Health Care Financing** Administration /Standards
MI Blood Chemical Analysis /Standards
MI Human
MI Quality Control
MI United States

Item: 355

UI 92359670
AU Burnett RW
AU Westgard JO
TI Selection of measurement and control procedures to satisfy the **Health Care Financing** Administration requirements and provide cost-effective operation.
SO Arch Pathol Lab Med 1992 Jul;116(7):777-80
JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE
AD Department of Pathology and Laboratory Medicine, Hartford Hospital, CT 06115.
LA Eng
AB The basic principles of method evaluation and quality control system design have been extensively studied and described. However, the interaction among the various independent variables comprising the complete analytical system is not so well known. In this article, a model of a generalized analytical system is presented and the nature of the interaction among analytical method parameters and quality control system parameters is explored. Implications of recent **Health Care Financing** Administration regulations for allowable total error are also discussed.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Quality of Health Care /Economics
MJ Quality of Health Care /Standards
MJ United States** Health Care Financing** Administration /Standards
MI Cost-Benefit Analysis /Legislation & Jurisprudence

MI Human
MI Models Econometric
MI United States

Item: 356

UI 92359669
AU Laessig RH
AU Ehrmeyer SS
AU Leinweber JE
TI **Health Care Financing** Administration's new proficiency testing rules. Use of a statistical approach to predict long-term performance using the categories 'successful,' 'probation,' and 'suspended'.
SO Arch Pathol Lab Med 1992 Jul;116(7):770-6
JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE
AD Department of Pathology and Laboratory Medicine, University of Wisconsin, Madison 53706.
LA Eng
AB Under the Clinical Laboratory Improvement Act of 1967 (CLIA-67) and the Medicare Act, the **Health Care Financing** Administration's proficiency testing rules apply uniformly to all hospital and reference laboratories. We examined the relationship between internal laboratory performance as characterized by bias and coefficient of variation and proficiency testing performance, categorized as "successful," "probation," and "suspended." Under the March 14, 1990, final rule, a laboratory with suspended testing for even one analyte may be required to cease testing in the entire subspecialty, eg, routine chemistry, unless it ceases testing for that analyte. Analyzing this regimen as a Markov process, we obtained the steady-state solution for performance for one to 27 analytes. While 1.1% of laboratories testing for five analytes with internal or day-to-day coefficients of variation at 50% of the CLIA-67 proficiency testing limit would be suspended, 19.5% of laboratories having biases of 50% and coefficients of variation of 33% would be suspended. We conclude that after eight events, there will be an unacceptably high rate of suspensions.
PT JOURNAL ARTICLE
MJ Quality of Health Care /Economics
MJ Quality of Health Care /Standards
MJ United States** Health Care Financing** Administration /Standards
MI Human
MI Laboratories /Economics
MI Laboratories /Standards
MI Statistics
MI Time Factors
MI United States

Item: 357

UI 92359668
AU Westgard JO
TI Assuring analytical quality through process planning and quality control.

SO Arch Pathol Lab Med 1992 Jul;116(7):765-9
 JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE
 AD Department of Pathology and Laboratory Medicine, University of Wisconsin Medical School, Madison.
 LA Eng
 AB United States governmental regulations describe quality assurance as a system in which quality control (QC) and proficiency testing are to be used to substantiate that routine tests conform to specified performance criteria. Careful planning of analytical processes is necessary to guarantee that routine tests will achieve the analytical performance defined by the **Health Care Financing** Administration proficiency testing criteria. These proficiency testing criteria are analytical "total error" requirements that need to be translated into operational process specifications for the allowable imprecision, allowable inaccuracy, and the QC procedure (decision rules, number of control measurements) necessary to provide a known or specified level of analytical quality assurance. The level of assurance will depend on the QC procedure's probability for detecting critical sized errors that would cause the quality requirement to be exceeded. Analytical quality can be guaranteed by applying statistical QC to verify, with a specified probability, that a desired quality requirement is actually achieved in routine laboratory testing. Analytical quality assurance, applied in this way, can be a quantitative approach for guaranteeing quality through process planning and QC.
 PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Quality Assurance Health Care /Legislation & Jurisprudence
 MI Health Planning Guidelines
 MI Human
 MI Quality Control
 MI Statistics

Item: 358

UI 92355450
 AU May-Hughes KL
 TI Long-term care financing and service delivery: meeting the challenge in Arkansas.
 SO J Ark Med Soc 1992 Apr;88(11):559-61
 JT JOURNAL OF THE ARKANSAS MEDICAL SOCIETY
 AD Division of Aging and Adult Services, Arkansas Department of Human Services.
 LA Eng
 PT JOURNAL ARTICLE
 MJ Health Services for the Aged /Economics
 MJ Long-Term Care /Economics
 MI Aged
 MI Arkansas
 MI Health Services for the Aged /Legislation & Jurisprudence
 MI Human

MI Long-Term Care /Legislation & Jurisprudence
MI Medicaid
MI United States
MI United States** Health Care Financing** Administration

Item: 359

UI 92355067
AU Burke M
TI PPS rule proposes changes in reclassification, outlier policies.
SO Hospitals 1992 Aug 20;66(16):48, 50, 52
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Hospitals /Classification
MJ Medicare Part A /Legislation & Jurisprudence
MJ Prospective Payment System /Legislation & Jurisprudence
MI Financial Management Hospital /Trends
MI Geography
MI Hospitals Rural /Classification
MI Outliers DRG /Economics
MI Salaries and Fringe Benefits /Statistics & Numerical Data
MI United States
MI United States** Health Care Financing** Administration

Item: 360

UI 92349624
AU Nash DB
TI Is the quality cart before the horse? [editorial; comment]
SO JAMA 1992 Aug 19;268(7):917-8
JT JAMA
LA Eng
PT COMMENT
PT EDITORIAL
MJ Medicare /Standards
MI Professional Review Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 361

UI 92349619
AU Jencks SF
AU Wilensky GR
TI The health care quality improvement initiative. A new approach to quality assurance in Medicare [see comments]
SO JAMA 1992 Aug 19;268(7):900-3
JT JAMA
AD **Health Care Financing** Administration, Baltimore, MD.
LA Eng
PT JOURNAL ARTICLE
MJ Medicare /Standards

MJ Quality Assurance Health Care
MJ United States** Health Care Financing** Administration
MI Attitude of Health Personnel
MI Clinical Protocols
MI Data Collection
MI Databases Factual
MI Outcome and Process Assessment Health Care
MI Professional Review Organizations
MI United States

Item: 362

UI 92349570
AU Ferris DG
AU Fischer PM
TI Elementary school students' performance with two ELISA test systems [see comments]
SO JAMA 1992 Aug 12;268(6):766-70
JT JAMA
AD Department of Family Medicine, Medical College of Georgia, Augusta 30912.
LA Eng
AB OBJECTIVE--To examine analytic performance by previously untrained and inexperienced subjects using enzyme-linked immunosorbent assay (ELISA) tests developed for decentralized laboratories. Performance variability between tests assigned to the "simple" and "moderately complex" **Health Care Financing** Administration laboratory levels was evaluated. DESIGN--A nonrandomized trial of the Surecell Strep-A chorionic gonadotropin ELISA tests. Each subject processed nine unknown specimens (three negative, three weakly positive, and three strongly positive) for each ELISA test. Subjects were blinded to expected test results. SETTING--An elementary school. SUBJECTS--A convenience sample of 52 students enrolled in the sixth and seventh grades. This age group was chosen because of their ability to generally comprehend instructions and remain attentive to the testing task. INTERVENTIONS--Subjects were either self-trained by reading package insert directions or trained by a manufacturer's sales representative. MAIN OUTCOME MEASURES--Performance was measured as the percentage of correct test results for the unknown specimens. The sensitivity and specificity for each test by operator group were calculated. RESULTS--Subjects demonstrated an overall sensitivity of 97.1% and specificity of 94.7% for human chorionic gonadotropin unknown specimens and a 95.9% sensitivity and 96.8% specificity for group A streptococcus unknown specimens. No significant differences between the self-trained group and the representative-trained group were observed for either group A streptococcus or human chorionic gonadotropin tests. Performance was so high with the first specimen that improvement over time (ie, a "learning curve") could not be demonstrated. CONCLUSION--These ELISA test systems are able to achieve high levels of performance by subjects with no formal laboratory background, no previous method specific experience, and limited self-training.

PT JOURNAL ARTICLE
MJ Enzyme-Linked Immunosorbent Assay /Standards
MJ Students
MI Adolescence
MI Antigens Bacterial /Analysis
MI Chemistry Clinical /Standards
MI Child
MI Enzyme-Linked Immunosorbent Assay /Methods
MI Gonadotropins Chorionic /Urine
MI Human
MI Quality Control
MI Sensitivity and Specificity
MI Streptococcus pyogenes /Immunology
MI Support, Non-U.S. Gov't

Item: 363

UI 92347833
AU Koska MT
TI PROs, providers and physicians to collaborate on cardiac outcomes.
SO Hospitals 1992 Aug 5;66(15):36, 38
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Cardiology /Standards
MJ Cardiology Service Hospital /Standards
MJ Outcome and Process Assessment Health Care /Methods
MJ Professional Review Organizations
MI American Hospital Association
MI American Medical Association
MI Cardiovascular Diseases /Therapy C14 C14.0
MI Human
MI Interinstitutional Relations
MI Physicians Practice Patterns
MI Pilot Projects
MI Professional Review Organizations /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 364

UI 92342329
AU Kingsley DI
AU Rodi AE Sr
TI Federal PRO program undergoing fundamental transformation.
SO N J Med 1992 May;89(5):401-2
JT NEW JERSEY MEDICINE
AD PRO of New Jersey, Inc., East Brunswick.
LA Eng
AB The PRO of New Jersey, Inc. is committed to the ideal of a localized peer review process--one that is based on the belief that New Jersey physicians are best suited to assess the work of their peers. The

concept of a local peer review remains absolutely essential.

PT JOURNAL ARTICLE
MJ Professional Review Organizations
MI Algorithms
MI Medicare
MI New Jersey
MI Peer Review
MI United States
MI United States** Health Care Financing** Administration

Item: 365

UI 92336677
TI **Health Care Financing** Administration Medicare carriers manual. New implementing instructions for Medicare payment for anesthesia services.
SO AANA J 1992 Jun;60(3):237-49
JT AANA JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Anesthesia /Economics
MJ Insurance Health Reimbursement
MJ Manuals
MJ Medicare /Economics
MI Anesthesiology /Economics
MI Human
MI Nurse Anesthetists /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 366

UI 92336676
AU Michels KA
TI New HCFA carrier manual instructions on Medicare payment.
SO AANA J 1992 Jun;60(3):233-6
JT AANA JOURNAL
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Health Reimbursement
MJ Manuals
MJ Medicare /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 367

UI 92336286
AU Cleverley WO
TI Financial and operating performance of systems: voluntary versus investor-owned.
SO Top Health Care Financ 1992 Summer;18(4):63-73
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng

PT JOURNAL ARTICLE
MJ Financial Management Hospital /Statistics & Numerical Data
MJ Hospitals Proprietary /Economics
MJ Hospitals Voluntary /Economics
MJ Multi-Institutional Systems /Economics
MI Accounts Payable and Receivable
MI Comparative Study
MI Costs and Cost Analysis /Statistics & Numerical Data
MI Financial Audit /Statistics & Numerical Data
MI Hospitals Proprietary /Organization & Administration
MI Hospitals Voluntary /Organization & Administration
MI Income /Statistics & Numerical Data
MI Management Audit /Statistics & Numerical Data
MI Multi-Institutional Systems /Organization & Administration
MI United States

Item: 368

UI 92336285
AU Gerber L
AU Feinstein FI
TI When the system can't save the hospital: a practical overview of workouts and bankruptcy alternatives.
SO Top Health Care Financ 1992 Summer;18(4):46-62
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Bankruptcy /Organization & Administration
MJ Financial Management Hospital /Methods
MJ Multi-Institutional Systems /Economics
MI Bankruptcy /Legislation & Jurisprudence
MI Financial Management Hospital /Legislation & Jurisprudence
MI Fraud /Legislation & Jurisprudence
MI Hospital Restructuring /Legislation & Jurisprudence
MI United States

Item: 369

UI 92336284
AU Kaiser LR
TI The future of multihospital systems.
SO Top Health Care Financ 1992 Summer;18(4):32-45
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Forecasting
MJ Interinstitutional Relations
MJ Multi-Institutional Systems /Trends
MI Centralized Hospital Services
MI Communication
MI Decision Making Organizational
MI Human

MI Leadership
MI Multi-Institutional Systems /Economics
MI Multi-Institutional Systems /Organization & Administration
MI Power Psychology
MI Problem Solving
MI United States

Item: 370

UI 92336283
AU Grant MK
AU Modde MM
TI The evolution of Catholic multiinstitutional systems.
SO Top Health Care Financ 1992 Summer;18(4):24-31
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Catholicism
MJ Hospitals Religious /Trends
MJ Multi-Institutional Systems /Trends
MI Forecasting
MI Hospitals Religious /Organization & Administration
MI Human
MI Interinstitutional Relations
MI Multi-Institutional Systems /Economics
MI Multi-Institutional Systems /Organization & Administration
MI Organizational Innovation
MI Organizational Objectives
MI United States

Item: 371

UI 92336282
AU Ramirez TL
TI Introduction to multihospital systems.
SO Top Health Care Financ 1992 Summer;18(4):1-23
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Models Theoretical
MJ Multi-Institutional Systems /Organization & Administration
MI Contract Services
MI Cost Control
MI Decision Making Organizational
MI Governing Board /Organization & Administration
MI Interinstitutional Relations
MI Leasing Property
MI Multi-Institutional Systems /Economics
MI Multi-Institutional Systems /Legislation & Jurisprudence
MI Organizational Objectives
MI United States

Item: 372

UI 92335945

AU Sheingold S

AU Churchill D

AU Muirhead N

AU Laupacis A

AU Labelle R

AU Goeree R

TI The impact of recombinant human erythropoietin on medical care costs for hemodialysis patients in Canada.

SO Soc Sci Med 1992 May;34(9):983-91

JT SOCIAL SCIENCE AND MEDICINE

AD **Health Care Financing** Administration, Bureau of Policy Development, Baltimore, MD 21207.

LA Eng

AB Recombinant human erythropoietin (r-HuEPO) is an established and effective therapy for anemia related to end stage renal disease. In addition to its clinical effects, it has been associated with significant improvements in quality of life for anemic hemodialysis patients. The therapy's impact on overall medical care expenditures for these patients remains uncertain, however. In this study, we examine the costs of r-HuEPO as well as potential offsetting reductions in other medical care costs that might result from the therapy. We used data from a randomized clinical trial, a longitudinal study of hemodialysis patients and the clinical literature to estimate the impact of r-HuEPO on transfusion requirements, transfusion-related illness, hospitalization and transplant success for these patients. We estimate that for patients that otherwise would be transfused, the therapy would reduce blood requirements by nearly 10 units per patient annually and hospital use by 8 days per year. In addition, increased transplant success due to r-HuEPO might result in 150 fewer patient months of dialysis treatments each year. Comparing the dollar value of these reductions with the cost of therapy yields a base case net increase in medical care expenditures of \$3425 per patient year. Under varying assumptions, the estimates range from a net cost of \$8320 to a net saving of \$1775 per patient year.

PT JOURNAL ARTICLE

MJ Erythropoietin /Therapeutic Use

MJ Health Care Costs /Statistics & Numerical Data

MJ Health Expenditures /Statistics & Numerical Data

MJ Hemodialysis /Economics

MJ Kidney Failure Chronic /Economics

MI Anemia /Economics

MI Anemia /Therapy

MI Blood Transfusion /Economics

MI Blood Transfusion /Utilization

MI Canada

MI Drug Costs /Statistics & Numerical Data

MI Female

MI Hospitalization /Economics

MI Hospitalization /Statistics & Numerical Data
MI Human
MI Kidney Failure Chronic /Therapy
MI Male
MI Middle Age
MI Quality of Life
MI Recombinant Proteins /Therapeutic Use
MI Support, Non-U.S. Gov't
MI Treatment Outcome

Item: 373

UI 92328031
AU Paganini EP
TI The future of the end-stage renal disease program.
SO Am J Kidney Dis 1992 Jul;20(1 Suppl 1):12-5
JT AMERICAN JOURNAL OF KIDNEY DISEASES
AD Department of Hypertension/Nephrology, Cleveland Clinic Foundation, OH 44106.
LA Eng
AB The rapidly changing health care environment in the United States will affect the future of nephrology in several areas. Reductions in Medicare spending will affect graduate medical education, physician payments, and, eventually, payments for medical supplies and therapeutic agents. The resource-based relative value system (RBRVS) developed by the **Health Care Financing** Administration (HCFA) will be implemented over the next 4 years, and it is likely that similar plans will be adopted by other insurance carriers. Under this system, payments for the procedure of dialysis will be substantially reduced--decreases in Medicare reimbursement will range from approximately 30% to 60% depending on geographic location and current charges. However, the current economic pressures may have a beneficial effect on the practice of nephrology by providing an incentive to develop standardized practice guidelines that will eliminate wide variations in practices and minimize unfounded litigation. In the near future, attention must also focus on the training of nephrology fellows; ideas for future directions are presented.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Kidney Failure Chronic /Therapy
MJ Medicare /Economics
MJ Reimbursement Mechanisms /Economics
MI Forecasting
MI Human
MI United States

Item: 374

UI 92327978
AU Hartz AJ
AU Kuhn EM

AU Pryor DB
AU Krakauer H
AU Young M
AU Heudebert G
AU Rimm AA
TI Mortality after coronary angioplasty and coronary artery bypass surgery
(the national Medicare experience).
SO Am J Cardiol 1992 Jul 15;70(2):179-85
JT AMERICAN JOURNAL OF CARDIOLOGY
AD Division of Biostatistics/Clinical Epidemiology, Medical College of
Wisconsin, Milwaukee 53226.
LA Eng
AB Mortality rates for Medicare patients who underwent coronary artery
bypass surgery were compared with those who had angioplasty or
angioplasty and bypass surgery. Two data sets were used for this study:
The first contained information on demographic factors, co-morbidities
and subsequent mortality on all 96,666 Medicare patients who had bypass
surgery or angioplasty in 1985; the second contained additional detailed
clinical data collected using the MedisGroups method on a random sample
of 2,931 revascularization patients from 6 states. From the national
data set 30-day and 1-year mortality rates were 3.8 and 8.2% for 25,423
angioplasty patients and 6.4 and 11.8% for 71,243 bypass surgery
patients (p less than 0.001 for both time periods). Mortality rates for
the MedisGroups data were 4.4 and 8.5% for the angioplasty patients and
6.5 and 11.9% for the bypass surgery patients. After eliminating
patients admitted with a myocardial infarction, mortality rates were 1.9
and 6.0% for 632 angioplasty patients and 5.1 and 10.8% for 1,730 bypass
surgery patients. The risk-adjusted relative risk of mortality for
bypass surgery versus angioplasty was 1.72 (p = 0.001) for all patients,
2.15 (p less than 0.001) for low-risk patients and 0.90 (p = not
significant) for high-risk patients. Results suggest that low-risk
patients have better survival with angioplasty because of lower
short-term mortality.
PT JOURNAL ARTICLE
MJ Angioplasty Transluminal Percutaneous Coronary /Mortality
MJ Coronary Artery Bypass /Mortality
MJ Medicare
MI Angioplasty Transluminal Percutaneous Coronary /Statistics & Numerical
Data
MI Chi-Square Distribution
MI Comparative Study
MI Coronary Artery Bypass /Statistics & Numerical Data
MI Human
MI Medicare /Statistics & Numerical Data
MI Proportional Hazards Models
MI Risk Factors
MI Support U S Govt P H S
MI Survival Analysis
MI United States
MI United States** Health Care Financing** Administration

Item: 375

UI 92327128

AU Bocchino CA

TI Assistants-at-surgery: recognition of the role of the registered nurse.

SO Orthop Nurs 1992 May-Jun;11(3):41-4, 70

JT ORTHOPAEDIC NURSING

LA Eng

AB In the Omnibus Budget Reconciliation Act of 1989 (OBRA '89), Congress directed the Physician Payment Review Commission (PPRC or "the Commission") to make recommendations on payment policies for assistants-at-surgery, including physicians, physician assistants (PAs) and registered nurses (RNs). The National Association of Orthopaedic Nurses (NAON), via the Government Relations Committee and Executive Board, participated in the public hearing on this issue and submitted testimony on the role of the RN first assistant during orthopaedic surgery. In its 1991 report to Congress, the Commission recommended that inappropriate utilization of assistants-at-surgery could be reduced by implementing "profiling"--a variety of techniques to examine the use of assistants. PPRC failed to comment on policies related to non-physician providers, determining that this was a coverage issue, not a payment issue and thus outside the scope of their jurisdiction. However, as global surgical payment policy is further defined by the **Health Care Financing** Administration (HCFA) and Congress, consideration will again be given to incorporating payment for assistants-at-surgery into a comprehensive fee schedule. Recognition of the registered nurse as an assistant-at-surgery will continue to be a primary goal of NAON.

PT JOURNAL ARTICLE

MJ Job Description

MJ Operating Room Technicians /Standards

MJ Orthopedic Nursing /Standards

MJ Physicians Assistants /Standards

MI Health Policy

MI Human

MI Operating Room Technicians /Legislation & Jurisprudence

MI Orthopedic Nursing /Legislation & Jurisprudence

MI Physician Payment Review Commission

MI Physicians Assistants /Legislation & Jurisprudence

MI United States

Item: 376

UI 92324820

AU Kaserman DL

TI Reimbursement rates and quality of care in the dialysis industry: a policy discussion.

SO Issues Law Med 1992 Summer;8(1):81-102

JT ISSUES IN LAW AND MEDICINE

AD Auburn University.

LA Eng

PT JOURNAL ARTICLE
MJ Financing Government /Economics
MJ Hemodialysis /Economics
MJ Prospective Payment System
MJ Quality of Health Care /Economics
MI Economic Competition
MI Health Policy /Economics
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 377

UI 92323662
AU Lanphear BJ
AU Burmeister BJ
AU Ehrmeyer SS
AU Laessig RH
AU Hassemer DJ
TI Review of actual proficiency-testing performance under CLIA '67 (March 14, 1990) rules: perspective from the first year's data.
SO Clin Chem 1992 Jul;38(7):1254-9; discussion 1268-72
JT CLINICAL CHEMISTRY
AD Wisconsin State Laboratory of Hygiene, University of Wisconsin-Madison 53706.
LA Eng
AB Under the Clinical Laboratory Improvement Act of 1967 the **Health Care Financing** Administration's proficiency-testing requirement applies to approximately 12,000 hospital, reference, and large-clinic laboratories in the United States. The Wisconsin State Laboratory of Hygiene is approved by the **Health Care Financing** Administration to provide proficiency testing in all specialties and subspecialties. The focus of the program is to provide highly specialized service and support to a limited number of participants in order to assess intralaboratory performance correctly. We report the findings over the four proficiency-testing events in 1991 for the subspecialty of routine chemistry, which serves approximately 470 participants. Failure rates for individual analytes on single proficiency testing events ranged from 0% to 13%. After four events or one year, if the mandated evaluation criteria and failure rules were strictly applied, as many as 11% of the laboratories could have found themselves involuntarily suspended from offering all routine chemistry testing.

PT JOURNAL ARTICLE
MJ Chemistry Clinical /Standards
MJ Laboratories /Standards
MJ Licensure /Legislation & Jurisprudence
MI Chemistry Clinical /Legislation & Jurisprudence
MI Evaluation Studies
MI Human
MI Laboratories /Legislation & Jurisprudence
MI Quality Control

Item: 378

UI 92323661
AU Hinkel C
TI Regulation of proficiency testing under the March 14 rule.
SO Clin Chem 1992 Jul;38(7):1251-3; discussion 1268-72
JT CLINICAL CHEMISTRY
AD **Health Care Financing** Administration, Baltimore, MD 20217.
LA Eng
PT JOURNAL ARTICLE
MJ Chemistry Clinical /Standards
MJ Laboratories /Standards
MJ Licensure /Legislation & Jurisprudence
MI Chemistry Clinical /Legislation & Jurisprudence
MI Human
MI Laboratories /Legislation & Jurisprudence
MI Quality Control

Item: 379

UI 92323660
AU Laessig RH
AU Ehrmeyer SS
AU Lanphear BJ
AU Burmeister BJ
AU Hassemer DJ
TI Limitations of proficiency testing under CLIA '67.
SO Clin Chem 1992 Jul;38(7):1237-44; discussion 1245-50
JT CLINICAL CHEMISTRY
AD State Laboratory of Hygiene, University of Wisconsin, Madison 53706.
LA Eng
AB Proficiency testing (PT), recognized as a quality-assurance (QA) and quality-improvement tool, also has become the cornerstone of the **Health Care Financing** Administration's (HCFA) regulatory strategy under the revised Clinical Laboratory Improvement Act of 1967 (CLIA '67) and the proposed Clinical Laboratory Improvement Amendments of 1988 (CLIA '88). Use of PT as a regulatory tool corrupts it for things it can do better. PT as a primary regulatory strategy has severe limitations. We explore the nature of these limitations and their implications for clinical laboratories as they impact on the long-term success of HCFA's approved regulatory PT programs in 1991 and beyond, and CLIA '88 PT, which is to be implemented in 1994.
PT JOURNAL ARTICLE
MJ Chemistry Clinical /Legislation & Jurisprudence
MJ Chemistry Clinical /Standards
MJ Laboratories /Legislation & Jurisprudence
MJ Laboratories /Standards
MI Chemistry Clinical /Statistics & Numerical Data
MI Evaluation Studies
MI Human
MI Laboratories /Statistics & Numerical Data

MI Licensure /Legislation & Jurisprudence
MI Quality Control

Item: 380

UI 92321046
AU Lazenby WD
TI Our great heritage.
SO Ala Med 1992 Apr;61(10):6-9
JT ALABAMA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Reimbursement Mechanisms /Legislation & Jurisprudence
MJ Relative Value Scales
MJ Societies Medical
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Alabama
MI Human
MI United States

Item: 381

UI 92319355
AU Sharp JR
TI Peer review: determining what's best for patients by professional self-assessment.
SO Mil Med 1992 Jun;157(6):311-4
JT MILITARY MEDICINE
AD Hospital Services, Wilford Hall Medical Center, San Antonio, TX 78236.
LA Eng
AB Many influences outside of physician control have begun to undermine traditional physician autonomy. Studies of physician practices reveal differences not based on patient case mix alone, but on variations in decisions and lack of intra-physician accountability. Failure of physicians to be accountable to each other is related to inadequate due process understanding, fear of legal recriminations from peers, and a traditional long-standing history of individuality and accountability. The malpractice crisis and the advent of a National Practitioner Data Bank of physicians whose privileges or licenses have been modified serves as an impetus to rebuild accountability into a new emphasis on peer review based on optimum patient-focused outcome. To get physician buy-in, a five-step process is described which is separate from professional review of privileges and is seen as collegial, educational, and patient focused.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Delivery of Health Care /Standards
MJ Health Services /Standards
MJ Professional Review Organizations
MI Female

MI Health Services /Organization & Administration
MI Hospitals Teaching
MI Human
MI Male
MI Professional Competence
MI United States
MI United States** Health Care Financing** Administration /Organization & Administration

Item: 382

UI 92318379
AU Shulkin DJ
AU Escarce JJ
AU Enarson C
AU Eisenberg JM
TI Impact of the Medicare fee schedule on an academic department of medicine.
SO JAMA 1991 Dec 4;266(21):3000-3
JT JAMA
AD Department of Medicine, University of Pennsylvania, Philadelphia.
LA Eng
AB OBJECTIVE--To examine the effect of the Medicare Fee Schedule (MFS) on Medicare revenues in the department of medicine at an urban academic medical center after the MFS is fully implemented. METHODS--Department revenues from Medicare were compared with projected revenues using the MFS proposed by the **Health Care Financing** Administration on June 5, 1991. National Medicare claims data were used to determine differences in service mix between community and academic internists and the impact of the geographic component of the MFS on department revenues. RESULTS--Department revenues from Medicare in 1996 are projected to be 25.5% lower under the MFS than if the current system had continued. Subspecialty sections that perform large numbers of procedures and special tests had the largest decrease in revenues (eg, gastroenterology, -29.8%); however, this did not differ greatly from decreases in sections that mainly provide visits and consultations (eg, general internal medicine, -24.7%). CONCLUSION--The proposed MFS is projected to lead to substantial reductions in department revenues from Medicare. While relative values for services and geographic location will play a role in how individual departments fare under the MFS, the value of the conversion factor used in the final MFS will be the factor of greatest importance.
PT JOURNAL ARTICLE
MJ Academic Medical Centers
MJ Fee Schedules
MJ Internal Medicine /Economics
MJ Medicare /Economics
MI Philadelphia
MI Support, Non-U.S. Gov't
MI United States

Item: 383

UI 92315311
AU Isner JM
AU Rosenfield K
TI Enough with the fantastic voyage: will IVUS pay in Peoria? [editorial; comment]
SO Cathet Cardiovasc Diagn 1992 Jul;26(3):192-9
JT CATHETERIZATION AND CARDIOVASCULAR DIAGNOSIS
LA Eng
PT COMMENT
PT EDITORIAL
MJ Coronary Disease /Ultrasonography
MJ Peripheral Vascular Diseases /Ultrasonography
MJ Reimbursement Mechanisms
MJ Ultrasonography /Methods
MI Cost Control
MI Human
MI Image Processing, Computer-Assisted
MI Support U S Govt P H S
MI Ultrasonography /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 384

UI 92313953
AU Evans RW
AU Dong FB
AU Manninen DL
TI The center effect in heart transplantation.
SO Clin Transpl 1991;:45-59
JT CLINICAL TRANSPLANTS
AD Health and Population Research Center, Battelle-Seattle Research Center, Washington.
LA Eng
AB Transplantation outcomes vary across centers, prompting interest in the notion of a "center effect." The components of this effect are not well understood, although experience is often regarded as the primary factor. Most studies, however, have failed to confirm an association between transplant program activity level and outcome. While there have been several published reports on the kidney transplant center effect, only 1 such (unpublished) report exists concerning heart transplantation. Data for this analysis were obtained from several sources that include: the Registry of the International Society for Heart and Lung Transplantation; the Medicare Provider Analysis and Review data maintained by the **Health Care Financing** Administration (HCFA), various hospital-specific data compiled by the American Hospital Association (AHA); and finally, 91% of all eligible heart programs participated in a special purpose survey intended to obtain critical data on transplant center characteristics. These 4 data sources were combined into a single data base representing 1,602 patients at 114

centers. The data were then analyzed using a discrete piecewise exponential hazards model. This is a nonparametric approach toward the modeling of risk, wherein no assumption is made about the shape of the survival curve. Risk was assessed up to 2 years posttransplant. Overall 1-year patient survival was 82.4%. In the multivariate models, neither recipient nor donor sociodemographic characteristics were associated with patient survival. Clinical characteristics were the most critical predictors of outcome, including use of an artificial device and retransplantation, both of which had a strong adverse effect. This was predictable based upon univariate analyses alone. The results of this analysis suggest that experience is positively related to heart transplant patient survival; however, due to sample size and other considerations, the experience effect did not achieve statistical significance. Nevertheless, while outcomes did vary by center, the extent of variation was not nearly as great as some commentators have argued. This suggests that heart transplantation is a technology that can be acceptably applied in diverse settings with excellent outcomes.

PT JOURNAL ARTICLE
 MJ Heart Diseases /Surgery
 MJ Heart Transplantation /Statistics & Numerical Data
 MJ Hospitals Special /Statistics & Numerical Data
 MJ Postoperative Complications /Mortality
 MJ Quality Assurance Health Care /Trends
 MI Adolescence
 MI Adult
 MI Bias Epidemiology
 MI Cadaver
 MI Female
 MI Follow-Up Studies
 MI Heart Diseases /Mortality
 MI Human
 MI Male
 MI Middle Age
 MI Multivariate Analysis
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Survival Rate
 MI Tissue Donors /Statistics & Numerical Data
 MI Transplantation Heterotopic /Statistics & Numerical Data
 MI United States

Item: 385

UI 92312179
 AU Hetsko CM
 TI The status of the **health care financing** crisis in Wisconsin
 'medicina nusquam non est' (medicine is universal): X.
 SO Wis Med J 1992 Mar;91(3):115-6
 JT WISCONSIN MEDICAL JOURNAL
 LA Eng
 PT JOURNAL ARTICLE

MJ Delivery of Health Care /Economics
MJ Health Care Costs
MI Delivery of Health Care /Trends
MI Human
MI Insurance Health /Economics
MI Insurance Health /Trends
MI Quality of Health Care
MI Wisconsin

Item: 386

UI 92311796
AU Richardson M
TI Important dates loom for compliance with CLIA regulations.
SO Tex Med 1992 Jun;88(6):23-4
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Laboratories /Legislation & Jurisprudence
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Diagnosis Laboratory /Standards
MI Human
MI Texas
MI United States

Item: 387

UI 92311795
AU Richardson M
TI Here's help in understanding Medicare's new claim form.
SO Tex Med 1992 Jun;88(6):20-2
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Insurance Claim Reporting /Legislation & Jurisprudence
MJ Medicare /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Human
MI United States

Item: 388

UI 92311555
AU Eggers P
TI Comparison of treatment costs between dialysis and transplantation.
SO Semin Nephrol 1992 May;12(3):284-9
JT SEMINARS IN NEPHROLOGY
AD Office of Research, **Health Care Financing** Administration, Baltimore, MD 21207.
LA Eng

PT JOURNAL ARTICLE
MJ Hemodialysis /Economics
MJ Kidney Failure Chronic /Economics
MJ Kidney Transplantation /Economics
MI Comparative Study
MI Cost-Benefit Analysis
MI Health Care Costs
MI Human
MI Kidney Failure Chronic /Therapy
MI Medicare /Economics
MI Prognosis
MI United States

Item: 389

UI 92310799
AU Harrop DE
TI How does KePRO compare?
SO Pa Med 1992 Jun;95(6):34-5
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Peer Review
MJ Professional Review Organizations
MI Comparative Study
MI Pennsylvania
MI Retrospective Studies
MI United States
MI United States** Health Care Financing** Administration

Item: 390

UI 92310278
AU Baker NA
TI PRO update. Transition from the third to fourth scope of work.
SO Mich Med 1992 Apr;91(4):42, 45-7
JT MICHIGAN MEDICINE
LA Eng
AB The **Health Care Financing** Administration (HCFA) began implementation of the transition from the Third Peer Review Organization (PRO) Scope of Work to the Fourth PRO Scope of Work on October 1, 1991. PROs in 11 states are currently implementing newly-established medical review requirements under the "Scope of Work," the contract by which PROs are obligated to carry out their statutorily-mandated duties of determining the medical necessity, appropriateness and quality of care delivered to Medicare beneficiaries. Michigan's PRO (MPRO) is scheduled to implement requirements outlined in the Fourth Scope of Work beginning April 1, 1992. This article discusses the American Medical Association's (AMA) relationship to the PRO program and the transition from the Third to the Fourth Scope of Work including the status of the Uniform Clinical Data Set.
PT JOURNAL ARTICLE

MJ American Medical Association /Organization & Administration
MJ Health Policy /Legislation & Jurisprudence
MJ Interinstitutional Relations
MJ Professional Review Organizations /Organization & Administration
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MJ Societies Medical /Organization & Administration
MI Human
MI Michigan
MI Professional Review Organizations /Trends
MI Quality Assurance Health Care /Trends
MI United States

Item: 391

UI 92307873
AU Tresnowski BR
TI Building a foundation for universal access.
SO Inquiry 1992 Summer;29(2):269-73
JT INQUIRY
AD Blue Cross and Blue Shield Association, Chicago, IL 60611.
LA Eng
AB Specific strategies outlined by the Blue Cross and Blue Shield Association call for a restructuring of **health care financing** that builds on a competitive, employer-based health insurance system. Universal access can be achieved through better management of the cost of care and more affordable health care premiums. Restructuring of the financing system must restore its capacity to manage risk and establish accountability for managing cost. Business practices and public policies that have encouraged market fragmentation should be reformed and incentives to create affordable insurance options for all buyers be established.
PT JOURNAL ARTICLE
MJ Blue Cross /Economics
MJ Blue Shield /Economics
MJ Financial Management /Methods
MJ Health Services Accessibility /Economics
MI Blue Cross /Organization & Administration
MI Blue Cross /Standards
MI Blue Shield /Organization & Administration
MI Blue Shield /Standards
MI Cost Control
MI Economic Competition
MI Financial Management /Standards
MI Health Services Accessibility /Standards
MI Human
MI Organization and Administration /Economics
MI Organizational Objectives
MI United States

Item: 392

UI 92307870

AU Holahan J
AU Zedlewski S
TI Who pays for health care in the United States? Implications for health system reform.
SO Inquiry 1992 Summer;29(2):231-48
JT INQUIRY
AD Health Policy Center, Urban Institute, Washington, DC 20037.
LA Eng
AB This paper examines the distribution of health care spending and financing in the United States. We analyze the distribution of employer and employee contributions to health insurance, private nongroup health insurance purchases, out-of-pocket expenses, Medicaid benefits, uncompensated care, tax benefits due to the exemption of employer-paid health benefits, and taxes paid to finance Medicare, Medicaid, and the health benefit tax exclusion. All spending and financing burdens are distributed across the U.S. population using the Urban Institute's TRIM2 microsimulation model. We then examine the distributional effects of the U.S. health care system across income levels, family types, and regions of the country. The results show that health care spending increases with income. Spending for persons in the highest income deciles is about 60% above that of persons in the lowest decile. Nonetheless, the distribution of **health care financing** is regressive. When direct spending, employer contributions, tax benefits, and tax spending are all considered, the persons in the lowest income deciles devote nearly 20% of cash income to finance health care, compared with about 8% for persons in the highest income decile. We discuss how alternative health system reform approaches are likely to change the distribution of health spending and financing burdens.

PT JOURNAL ARTICLE
MJ Delivery of Health Care /Economics
MJ Financial Management /Methods
MJ Health Care Costs /Statistics & Numerical Data
MJ Income
MJ Models Statistical
MI Adult
MI Aged
MI Child
MI Delivery of Health Care /Standards
MI Direct Service Costs /Statistics & Numerical Data
MI Family Characteristics
MI Financial Management /Statistics & Numerical Data
MI Human
MI Taxes
MI United States

Item: 393

UI 92299902
AU Nelson DE
AU Sattin RW
AU Langlois JA

AU DeVito CA
AU Stevens JA
TI Alcohol as a risk factor for fall injury events among elderly persons
living in the community [see comments]
SO J Am Geriatr Soc 1992 Jul;40(7):658-61
JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY
AD Division of Injury Control, National Center for Environmental Health and
Injury Control, Atlanta, Georgia.
LA Eng
AB OBJECTIVE: To determine if alcohol use is a risk factor for fall injury
events among community-dwelling older persons. DESIGN: Case-control
study. SETTING: South Miami Beach, Florida. PARTICIPANTS: 320 persons
65 or older who sought treatment at six area hospitals for injuries
resulting from falls; 609 controls, matched for sex and age, selected
randomly from **Health Care Financing** Administration (Medicare) files.
MAIN INDEPENDENT VARIABLES: Self-reported current alcohol use. RESULTS:
No association was found between fall injury events and average weekly
alcohol use. CONCLUSIONS: Further efforts at reducing injuries to older
persons from falls should concentrate on other modifiable risk factors,
including adequate treatment of underlying medical conditions, reducing
inappropriate psychotropic medication use, and installing safety devices
in the home.

PT JOURNAL ARTICLE
MJ Accidental Falls /Statistics & Numerical Data
MJ Accidents Home /Statistics & Numerical Data
MJ Alcohol Drinking /Adverse Effects
MJ Wounds and Injuries /Epidemiology
MI Accidental Falls /Prevention & Control
MI Accidents Home /Prevention & Control
MI Activities of Daily Living
MI Aged
MI Aged 80 and over
MI Alcohol Drinking /Epidemiology
MI Body Mass Index
MI Case-Control Studies
MI Cognition Disorders /Complications
MI Estrogen Replacement Therapy /Adverse Effects
MI Florida /Epidemiology
MI Geriatric Assessment
MI Health Status Indicators
MI Human
MI Logistic Models
MI Nervous System Diseases /Complications C10 C10.0
MI Odds Ratio
MI Prevalence
MI Psychotropic Drugs /Adverse Effects
MI Risk Factors
MI Smoking /Adverse Effects
MI Support, Non-U.S. Gov't
MI Wounds and Injuries /Etiology

MI Wounds and Injuries /Prevention & Control

Item: 394

UI 92299307

AU Fetter RB

AU Thompson JD

TI Inventors of DRGs look at PPS now [interview by Marybeth Burke]

SO Hospitals 1992 Jul 5;66(13):136, 138

JT HOSPITALS

AD Yale University, New Haven, CT.

LA Eng

AB The inventors of diagnosis-related groups talk about what's happened to their invention, both in the U.S. and abroad. DRGs were used as the basis for Medicare's prospective payment system, but John D. Thompson and Robert B. Fetter, winners of the 1992 Baxter Foundation Prize for Health Services Research, say things haven't turned out exactly as they'd expected.

PT INTERVIEW

MJ Diagnosis-Related Groups /Economics

MJ Financial Management Hospital

MJ Prospective Payment System

MI Awards and Prizes

MI Budgets

MI Medicare

MI Physicians Practice Patterns

MI Quality Assurance Health Care

MI United States

MI United States** Health Care Financing** Administration

Item: 395

UI 92299304

AU Burke M

TI HCFA's Medicare mortality data: the controversy continues.

SO Hospitals 1992 Jul 5;66(13):118, 120, 122

JT HOSPITALS

LA Eng

PT JOURNAL ARTICLE

MJ Hospital Mortality

MJ Hospitals /Standards

MJ Medicare /Statistics & Numerical Data

MI Abstracting and Indexing

MI Comorbidity

MI Consumer Participation

MI Data Collection /Standards

MI Health Services Research

MI Hospitals /Classification

MI Human

MI Professional Review Organizations

MI Quality of Health Care

MI United States /Epidemiology

MI United States** Health Care Financing** Administration

Item: 396

UI 92293834

AU Lilley RJ

TI Understanding CLIA '88.

SO Pa Med 1992 May;95(5):24-5

JT PENNSYLVANIA MEDICINE

LA Eng

AB New regulations under the Clinical Laboratory Improvement Act of 1988 have been finalized, but not without objection from the State Society. This article outlines the regulations, compares them to those originally proposed in May 1990, presents a compliance timeline, and touches upon Society concerns.

PT JOURNAL ARTICLE

MJ Laboratories /Legislation & Jurisprudence

MJ Physicians Offices /Legislation & Jurisprudence

MJ Quality Assurance Health Care /Legislation & Jurisprudence

MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence

MI Human

MI United States

Item: 397

UI 92287230

AU Leape LL

TI Unnecessary surgery.

SO Annu Rev Public Health 1992;13:363-83

JT ANNUAL REVIEW OF PUBLIC HEALTH

AD Department of Health Policy and Management, Harvard School of Public Health, Boston, MA 02115.

LA Eng

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ Health Services Misuse /Statistics & Numerical Data

MJ Surgery Operative /Utilization E4 E4.0

MI Certification

MI Clinical Protocols /Standards

MI Cost Control

MI Diffusion of Innovation

MI Evaluation Studies

MI Health Policy

MI Health Services Misuse /Economics

MI Human

MI Outcome Assessment Health Care

MI Physicians Practice Patterns /Economics

MI Physicians Practice Patterns /Statistics & Numerical Data

MI Quality of Health Care

MI Referral and Consultation /Utilization

MI Residence Characteristics
MI Surgery Operative /Economics E4 E4.0
MI United States
MI United States** Health Care Financing** Administration

Item: 398

UI 92284326
AU Randall DA
TI The role of the Medicare fiscal intermediary and the Regional Home Health Intermediary, Part 1.
SO J Nurs Adm 1992 Jun;22(6):47-53
JT JOURNAL OF NURSING ADMINISTRATION
AD Arent Fox Kintner Plotkin & Kahn, Washington, DC.
LA Eng
AB The Medicare fiscal intermediaries (FIs) are private insurance companies that serve as the federal government's agents in the administration of the Medicare program, including the payment of claims. There are two primary functions for the FI--reimbursement review and medical coverage review. Hospital-based home health agencies relate to the hospital's FI for reimbursement purposes. All home health agencies are assigned to a special FI, the Regional Home Health Intermediary (RHHI), for medical review issues. The same or a different FI may audit the hospital's cost report. Freestanding home health agencies deal with separate reimbursement and medical review divisions within a single RHHI's office. The author reviews the role of the Medicare FI and the RHHI and their relationship to home health agencies. Part 2 will appear in the July/August issue.
PT JOURNAL ARTICLE
MJ Home Care Services /Organization & Administration
MJ Medicare /Organization & Administration
MI Home Care Services /Economics
MI Home Care Services /Legislation & Jurisprudence
MI Insurance Claim Review /Economics
MI Insurance Claim Review /Legislation & Jurisprudence
MI Insurance Claim Review /Organization & Administration
MI Insurance Health Reimbursement /Economics
MI Insurance Health Reimbursement /Legislation & Jurisprudence
MI Medicare /Economics
MI Medicare /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 399

UI 92281488
AU Foreman J
TI Proposed legislation to protect Medicare beneficiaries [news]
SO Arch Ophthalmol 1992 Jun;110(6):758
JT ARCHIVES OF OPHTHALMOLOGY
LA Eng
PT NEWS

MJ Insurance Benefits /Legislation & Jurisprudence
MJ Medicare /Legislation & Jurisprudence
MI Fees and Charges /Legislation & Jurisprudence
MI Human
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 400

UI 92280807
AU Morrison AS
TI Risk factors for surgery for prostatic hypertrophy [see comments]
SO Am J Epidemiol 1992 May 1;135(9):974-80
JT AMERICAN JOURNAL OF EPIDEMIOLOGY
AD Department of Community Health, Brown University, Providence, RI 02912.
LA Eng
AB The purpose of this case-control study was to evaluate potential risk factors for prostatic hypertrophy. The cases were 910 residents of Rhode Island who had a partial or total prostatectomy that was not related to cancer in the years 1985-1987. The controls were 2,003 members of the source population who were selected from a list of holders of Rhode Island driver's licenses or a roster of older Americans compiled by the **Health Care Financing** Administration. Cases and controls were interviewed by telephone. The risk of prostatic hypertrophy was elevated in Jewish men compared with Protestants and Catholics and in blacks compared with whites. Risk was reduced in ever-married compared with never-married men, in men who had left school at age 16 years or more compared with those who had left earlier, and in relatively tall or relatively heavy men. Coffee drinking and cigarette smoking were inversely but only weakly related to prostatic hypertrophy. There was a relatively strong, although irregular, inverse relation of beer drinking to prostatic hypertrophy. The associations of spirits and wine consumption with prostatic hypertrophy were weak.
PT JOURNAL ARTICLE
MJ Health Status Indicators
MJ Prostatectomy /Statistics & Numerical Data
MJ Prostatic Hypertrophy /Epidemiology
MI Age Factors
MI Alcohol Drinking /Adverse Effects
MI Body Height
MI Body Weight
MI Case-Control Studies
MI Christianity
MI Coffee /Adverse Effects
MI Educational Status
MI Human
MI Jews
MI Male
MI Marriage /Statistics & Numerical Data
MI Prostatic Hypertrophy /Surgery

MI Racial Stocks
MI Rhode Island /Epidemiology
MI Risk Factors
MI Smoking /Adverse Effects
MI Support U S Govt P H S

Item: 401

UI 92280781
AU Thomas DB
AU Jimenez LM
AU McTiernan A
AU Rosenblatt K
AU Stalsberg H
AU Stemhagen A
AU Thompson WD
AU Curnen MG
AU Satariano W
AU Austin DF
AU et al
TI Breast cancer in men: risk factors with hormonal implications.
SO Am J Epidemiol 1992 Apr 1;135(7):734-48
JT AMERICAN JOURNAL OF EPIDEMIOLOGY
AD Program in Epidemiology, Fred Hutchinson Cancer Research Center,
Seattle, WA 98104.
LA Eng
AB Cases included in a population-based case-control study of breast cancer
in men were recruited from 10 geographic areas of the United States from
1983 to 1986. Controls, matched to cases on age and geographic area,
were selected by random digit dialing for men under age 65 years and
from **Health Care Financing** Administration files for older men.
Results are based on responses from 227 cases and 300 controls to
questions asked in a standardized personal interview. An increased risk
of breast cancer was most strongly associated with undescended testes
and was also related to orchiectomy, orchitis, testicular injury, late
puberty, and infertility; and a decreasing trend in risk was observed
with an increasing number of children. Relative risk estimates were
also elevated in relation to a history of high blood cholesterol, rapid
weight gain, benign breast conditions, and possibly obesity. These
findings suggest that breast cancer in men develops in response to
androgen deficiency associated with testicular dysfunction and under
conditions associated with excess estrogen. Risk was also found to be
elevated in men with a history of amphetamine use, diabetes, and cigar
smoking and reduced in men with prior head trauma.
PT JOURNAL ARTICLE
MJ Androgens /Deficiency
MJ Breast Neoplasms /Epidemiology
MJ Cryptorchism /Complications
MI Adult
MI Aged
MI Breast Neoplasms /Etiology

MI Case-Control Studies
MI Human
MI Male
MI Middle Age
MI Risk Factors
MI Support U S Govt P H S
MI United States /Epidemiology

Item: 402

UI 92280727
AU Arnold PJ
AU Schlenker TL
TI The impact of **health care financing** on childhood immunization practices.
SO Am J Dis Child 1992 Jun;146(6):728-32
JT AMERICAN JOURNAL OF DISEASES OF CHILDREN
AD School of Business Administration, University of Wisconsin, Milwaukee.
LA Eng
AB OBJECTIVE--To examine the impact of patient insurance status and third-party payment methods on physician immunization practices. DESIGN--Family practice physicians and pediatricians were surveyed to determine whether differences existed in office immunization practices for five childhood vaccines across insurance and payment classes. SETTING--Milwaukee, Wis. PARTICIPANTS--Of 202 Milwaukee area physicians who administer immunizations routinely, 161 (79.7%) returned the questionnaire. RESULTS--Physicians reported immunizing uninsured patients in their offices less often than patients with insurance. When insurance does not pay for immunizations, most physicians (81.6%) said that they left the decision of whether to pay for private immunizations or seek free immunizations from the city health department to the family. Physicians estimated that approximately half of their uninsured patients decline private immunizations. Some physicians (20%) who treat patients receiving Medicaid reported that they immunize patients with Title 19 coverage less often than patients with other types of insurance. No significant differences in frequency of immunization were reported for patients insured by capitated-payment health maintenance organizations, fee-for-service health maintenance organizations, or traditional insurance covering immunizations. CONCLUSIONS--Physicians reported that they do not immunize uninsured and underinsured children as frequently as insured children. Further research is recommended to evaluate the impact of Medicaid enrollment on access to immunization and to develop innovative financing arrangements to ensure that no children leave their physicians' offices without being immunized.
PT JOURNAL ARTICLE
MJ Family Practice /Standards
MJ Immunization /Standards
MJ Insurance Health Reimbursement /Standards
MJ Medically Uninsured /Statistics & Numerical Data
MJ Pediatrics /Standards
MJ Physicians Practice Patterns /Standards

MI Capitation Fee /Statistics & Numerical Data
MI Capitation Fee /Standards
MI Choice Behavior
MI Family Practice /Economics
MI Family Practice /Statistics & Numerical Data
MI Fees Medical /Statistics & Numerical Data
MI Fees Medical /Standards
MI Health Maintenance Organizations /Economics
MI Health Maintenance Organizations /Statistics & Numerical Data
MI Health Maintenance Organizations /Standards
MI Health Policy
MI Health Services Accessibility /Economics
MI Health Services Accessibility /Statistics & Numerical Data
MI Health Services Accessibility /Standards
MI Human
MI Immunization /Economics
MI Immunization /Statistics & Numerical Data
MI Infant
MI Insurance Health Reimbursement /Economics
MI Insurance Health Reimbursement /Statistics & Numerical Data
MI Matched-Pair Analysis
MI Medicaid /Statistics & Numerical Data
MI Parents /Psychology
MI Pediatrics /Economics
MI Pediatrics /Statistics & Numerical Data
MI Physicians Practice Patterns /Economics
MI Physicians Practice Patterns /Statistics & Numerical Data
MI Questionnaires
MI United States
MI Urban Population
MI Wisconsin

Item: 403

UI 92275579
AU Hudson T
TI States scramble for solutions under new Medicaid law.
SO Hospitals 1992 Jun 5;66(11):52, 54, 56
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Medicaid /Legislation & Jurisprudence
MJ State Health Plans /Legislation & Jurisprudence
MJ Taxes /Legislation & Jurisprudence
MI Fund Raising /Legislation & Jurisprudence
MI Medicaid /Economics
MI Societies Hospital
MI State Health Plans /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 404

UI 92266126
AU Gary NE
TI Quality of health care and costs: standards, outcome, and regulation.
SO Bull N Y Acad Med 1992 Mar-Apr;68(2):245-9; discussion 250-3
JT BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE
AD U.S. **Health Care Financing** Administration, Baltimore, MD.
LA Eng
PT JOURNAL ARTICLE
MJ Quality of Health Care
MI Delivery of Health Care /Economics
MI Delivery of Health Care /Standards
MI Health Care Costs
MI Human
MI Outcome and Process Assessment Health Care
MI Quality of Health Care /Legislation & Jurisprudence

Item: 405

UI 92263335
AU Moore RB Jr
TI Financial planning for hospitals.
SO Top Health Care Financ 1992 Spring;18(3):9-15
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management Hospital /Standards
MJ Planning Techniques
MI Budgets
MI Capital Financing
MI Delivery of Health Care /Statistics & Numerical Data
MI Delivery of Health Care /Trends
MI Feasibility Studies
MI Financial Management Hospital /Methods
MI Financial Management Hospital /Trends
MI Forecasting
MI Human
MI Models Econometric
MI United States

Item: 406

UI 92263334
AU Magel JS
TI Physician assessment of office-based technologies.
SO Top Health Care Financ 1992 Spring;18(3):80-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Practice Management Medical /Economics
MJ Technology Assessment Biomedical /Standards
MI Capital Expenditures

MI Commerce /Standards
MI Cost-Benefit Analysis
MI Costs and Cost Analysis
MI Decision Making
MI Financial Management
MI Forms and Records Control
MI Human
MI Leasing Property
MI Practice Management Medical /Standards
MI Technology Assessment Biomedical /Economics
MI Technology Assessment Biomedical /Methods
MI United States

Item: 407

UI 92263333
AU Moore RB Jr
AU Worthem JC
TI Market and financial planning in senior care.
SO Top Health Care Financ 1992 Spring;18(3):72-9
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Financial Management /Standards
MJ Health Facility Planning /Standards
MJ Health Services for the Aged /Standards
MJ Planning Techniques
MI Certificate of Need
MI Costs and Cost Analysis
MI Economic Competition
MI Feasibility Studies
MI Financial Management /Methods
MI Financing Construction
MI Health Facility Planning /Organization & Administration
MI Health Services for the Aged /Economics
MI Health Services for the Aged /Organization & Administration
MI Human
MI Income
MI Marketing of Health Services /Methods
MI Marketing of Health Services /Standards
MI Operations Research
MI United States

Item: 408

UI 92263332
AU Nauert RC
TI Planning an alternative delivery system.
SO Top Health Care Financ 1992 Spring;18(3):64-71
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE

MJ Delivery of Health Care /Organization & Administration
MJ Health Facility Planning /Organization & Administration
MJ Planning Techniques
MI Delivery of Health Care /Standards
MI Delivery of Health Care /Trends
MI Documentation /Standards
MI Financial Management
MI Health Facility Planning /Standards
MI Health Plan Implementation
MI Health Services Needs and Demand
MI Human
MI Management Information Systems
MI Marketing of Health Services
MI Organizational Objectives
MI United States

Item: 409

UI 92263331
AU Mecklenburg GA
AU Weber RM
TI Planning process at Northwestern Memorial Hospital.
SO Top Health Care Financ 1992 Spring;18(3):54-63
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Planning /Organization & Administration
MJ Hospitals Teaching /Organization & Administration
MJ Planning Techniques
MI Chicago
MI Clinical Medicine /Standards
MI Forecasting
MI Hospital Bed Capacity 500 and over
MI Hospitals Teaching /Trends
MI Human
MI Interinstitutional Relations
MI Organizational Objectives

Item: 410

UI 92263330
AU Risk RR
TI Multihospital systems: the turning point.
SO Top Health Care Financ 1992 Spring;18(3):46-53
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Multi-Institutional Systems /Trends
MJ Planning Techniques
MI Ambulatory Care /Trends
MI Health Resources /Trends
MI Human

MI Managed Care Programs /Trends
MI Motivation
MI Multi-Institutional Systems /Economics
MI Multi-Institutional Systems /Statistics & Numerical Data
MI National Health Insurance United States /Trends
MI Quality of Health Care
MI United States

Item: 411

UI 92263329
AU Hyland JS
TI Planning in today's environment: an empirical study.
SO Top Health Care Financ 1992 Spring;18(3):38-45
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Chief Executive Officers Hospital
MJ Hospital Planning /Organization & Administration
MJ Planning Techniques
MI Employee Incentive Plans
MI Financial Management Hospital
MI Hospital Bed Capacity
MI Hospital Planning /Statistics & Numerical Data
MI Human
MI Illinois
MI Indiana
MI Michigan
MI Organizational Objectives
MI Questionnaires
MI Time Factors
MI Wisconsin

Item: 412

UI 92263328
AU Nestor SE
TI Marketing to consumers: unleashing technologies to help the public choose health service options.
SO Top Health Care Financ 1992 Spring;18(3):28-37
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Information Services /Standards
MJ Marketing of Health Services /Standards
MJ Planning Techniques
MI Advertising
MI Community-Institutional Relations
MI Consumer Satisfaction
MI Human
MI Information Services /Utilization
MI Marketing of Health Services /Methods

MI Population Growth
MI Public Relations
MI United States

Item: 413

UI 92263327
AU McCutcheon SS
TI A process for service transformation in the evolving health care field.
SO Top Health Care Financ 1992 Spring;18(3):21-7
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Community Health Services /Organization & Administration
MJ Multi-Institutional Systems /Organization & Administration
MJ Organizational Innovation
MJ Planning Techniques
MI Catholicism
MI Community Health Services /Trends
MI Hospitals Religious /Organization & Administration
MI Human
MI Indiana
MI Iowa
MI Leadership
MI Michigan
MI Multi-Institutional Systems /Trends
MI Organizational Objectives

Item: 414

UI 92263326
AU Hyland JS
TI Planning roadblocks and detours.
SO Top Health Care Financ 1992 Spring;18(3):16-20
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Chief Executive Officers Hospital
MJ Hospital Planning
MJ Planning Techniques
MI Attitude of Health Personnel
MI Employee Incentive Plans /Standards
MI Financial Management Hospital /Standards
MI Human
MI Marketing of Health Services /Standards
MI Organizational Culture
MI Organizational Innovation
MI Organizational Objectives
MI Quality Assurance Health Care /Standards
MI Time Factors
MI United States

Item: 415

UI 92263325
TI Health care business planning.
SO Top Health Care Financ 1992 Spring;18(3):1-88
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT OVERALL
MJ Commerce /Organization & Administration
MJ Health Facility Planning /Organization & Administration
MJ Planning Techniques
MI United States

Item: 416

UI 92263324
AU Worthem JC
TI Business planning: who, what, when, where, why, and how.
SO Top Health Care Financ 1992 Spring;18(3):1-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Administrative Personnel /Standards
MJ Commerce /Organization & Administration
MJ Planning Techniques
MI Commerce /Economics
MI Decision Making Organizational
MI Employment
MI Human
MI Leadership
MI Organizational Objectives
MI Program Development
MI United States

Item: 417

UI 92261062
AU Fleming C
AU Fisher ES
AU Chang CH
AU Bubolz TA
AU Malenka DJ
TI Studying outcomes and hospital utilization in the elderly. The advantages of a merged data base for Medicare and Veterans Affairs hospitals.
SO Med Care 1992 May;30(5):377-91
JT MEDICAL CARE
AD Department of Medicine, Dartmouth Medical School, Hanover, NH 03756.
LA Eng
AB That veterans aged 65 years and older are eligible to receive care either in the Veteran Affairs (VA) health care system or in the private sector under Medicare confounds the analysis of veterans' health services utilization and outcomes in two ways. First, changes in

eligibility or financial barriers to access with regard to either system influence veterans' decisions about where to seek needed care. Second, analyses of VA care for elderly veterans that rely solely on VA data sources underestimate both overall utilization and treatment complications. Similarly, failure to consider the contribution of health care delivery in the VA system may confound analyses of health care utilization by the Medicare-eligible population. To study the magnitude of such confounding influences, we linked the Medicare and VA health care administrative databases for residents of New England and New York. Results indicated that, for ten surgical procedures commonly performed in the elderly, as well as for hospitalizations resulting from acute myocardial infarction and hip fracture, VA patients receive from 17.6% to 37.4% of hospital care outside the VA system. Private hospitalizations account for 5.5% to 19.5% of the care received by veterans within 6 months after an initial episode of care in a VA hospital. It was also found that initial hospitalizations for study conditions in the VA accounted for 3.6% of all such hospitalizations among elderly Medicare-eligible men. Although overall hospital utilization appears to be underestimated in VA data sources, it was found that ascertaining mortality from sources available within the VA produced excellent results when compared with deaths recorded in the Medicare enrollment files. A national, merged VA-Medicare data base is feasible and would enhance the validity of analyses of health care delivery both for elderly veterans and for the Medicare population.

PT JOURNAL ARTICLE
 MJ Computer Communication Networks
 MJ Databases Factual /Standards
 MJ Hospitals Private /Utilization
 MJ Hospitals Veterans /Utilization
 MJ Outcome and Process Assessment Health Care /Standards
 MJ Veterans /Statistics & Numerical Data
 MI Aged
 MI Confounding Factors Epidemiology
 MI Health Services Accessibility /Economics
 MI Health Services Research
 MI Hospitals Private /Statistics & Numerical Data
 MI Hospitals Veterans /Statistics & Numerical Data
 MI Human
 MI Likelihood Functions
 MI Male
 MI Medicare /Utilization
 MI Mortality
 MI New England
 MI New York
 MI Outcome and Process Assessment Health Care /Methods
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Support U S Govt P H S
 MI United States
 MI United States** Health Care Financing** Administration

Item: 418

UI 92259865

AU Soroka M

AU Barresi BJ

TI Predicted and observed effects of the Medicare Optometry Parity Amendment.

SO J Am Optom Assoc 1991 Jul;62(7):525-8

JT JOURNAL OF THE AMERICAN OPTOMETRIC ASSOCIATION

AD SUNY State College of Optometry, State University of New York, NY 10010.

LA Eng

AB The Medicare Parity Amendment of 1987 redefined the conditions of optometric participation and expanded coverage to include all Medicare-covered services which optometrists are authorized to perform under state law. Prior to the law, a number of studies projected costs to Medicare as a result of a change in Medicare policy. This paper reviews these studies in relation to actual Medicare expenditures from 1986 to 1988. The paper describes the impact of the Medicare amendment on payments to optometrists and shows how payments increased from \$12 million in 1986 to \$81 million in 1988. Optometrists substantially increased their market share of Medicare payments from 2.6 percent in 1986 to 11.1 percent in 1988. Indications suggest that a shift of patient visits from ophthalmologists to optometrists has occurred.

PT JOURNAL ARTICLE

MJ Medicare /Economics

MJ Optometry /Economics

MI Forecasting

MI Human

MI Marketing of Health Services /Economics

MI Prospective Payment System /Economics

MI United States

MI United States** Health Care Financing** Administration /Economics

Item: 419

UI 92259840

AU Soroka M

TI A comparison of charges by optometrists and ophthalmologists under the Medicare program.

SO J Am Optom Assoc 1991 May;62(5):372-6

JT JOURNAL OF THE AMERICAN OPTOMETRIC ASSOCIATION

AD SUNY, NY 10010.

LA Eng

AB Medicare data obtained from the **Health Care Financing** Administration was analyzed in relation to average allowed charges by optometrists and ophthalmologists. Optometric charges are considerably lower than ophthalmological charges for all services compared. The policy of different reimbursement levels is currently a major issue being considered by the Physician Payment Review Commission. Optometry must demonstrate that the procedure codes for which they submit Medicare claims are comparable and identical in service content to those provided by ophthalmologists.

PT JOURNAL ARTICLE
 MJ Fees and Charges
 MJ Medicare
 MJ Ophthalmology /Economics
 MJ Optometry /Economics
 MI Comparative Study
 MI Fee Schedules
 MI Human
 MI United States
 MI United States** Health Care Financing** Administration
 MI Vision Disorders /Economics
 MI Vision Disorders /Therapy

Item: 420

UI 92257707
 AU Casta~neda-M'endez K
 TI Proficiency testing from a total quality management perspective.
 SO Clin Chem 1992 May;38(5):615-8
 JT CLINICAL CHEMISTRY
 LA Eng
 AB Public concern over increasing health-care costs plus dramatized testing errors, has resulted in CLIA '88 with its more stringent rules governing laboratory performance. The purpose of the 1990 U.S. **Health Care Financing** Administration Final Rules for Proficiency Tests is to separate the quality laboratory from the poorly performing one. From the perspective of total quality management, the customer (patient) defines quality as virtually error-free test results. The current proficiency testing format defeats this. Its effective purpose is not to identify quality laboratories but to shut down the most prolific laboratories--regardless of their quality. There are two reasons for this. First, the proficiency testing format is incomplete: it is missing a minimum frequency criterion. Second, the data for determining the quality of a laboratory's performance (the degree of error-free results) are not being used. I propose a solution based on continuous improvement that promotes voluntarism, favors the quality laboratory, and reduces federal regulation.

PT JOURNAL ARTICLE
 MJ Chemistry Clinical /Standards
 MJ Laboratories /Standards
 MJ Quality of Health Care /Legislation & Jurisprudence
 MI Chemistry Clinical /Legislation & Jurisprudence
 MI Health Care Costs
 MI Laboratories /Legislation & Jurisprudence
 MI Quality Control

Item: 421

UI 92255491
 AU Koepke JA
 TI Critical factors for the definition of a quality clinical laboratory [editorial; comment]

SO Arch Pathol Lab Med 1992 May;116(5):484-5
JT ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE
LA Eng
PT COMMENT
PT EDITORIAL
MJ Laboratories /Standards
MJ Quality Assurance Health Care
MI Automation
MI Equipment and Supplies E7 E7.0
MI Government
MI Laboratory Personnel /Education
MI United States
MI United States** Health Care Financing** Administration

Item: 422

UI 92255450
AU Nattinger AB
AU Goodwin JS
TI Screening mammography for older women. A case of mixed messages.
SO Arch Intern Med 1992 May;152(5):922-5
JT ARCHIVES OF INTERNAL MEDICINE
AD Department of Medicine, Medical College of Wisconsin, Milwaukee 53226.
LA Eng
PT JOURNAL ARTICLE
MJ Health Services for the Aged /Economics
MJ Mammography /Economics
MJ Mass Screening /Economics
MJ Medicare /Economics
MJ National Institutes of Health U S
MJ United States** Health Care Financing** Administration
MI Aged
MI Aged 80 and over
MI Costs and Cost Analysis
MI Female
MI Human
MI Insurance Health Reimbursement
MI United States

Item: 423

UI 92253484
AU Griffin GC
TI A national health plan? CLIA is a scary preview! [editorial] [see comments]
SO Postgrad Med 1992 May 1;91(6):29-32, 41-4
JT POSTGRADUATE MEDICINE
LA Eng
PT EDITORIAL
MJ National Health Insurance United States
MI Human
MI Laboratories /Legislation & Jurisprudence

MI National Health Insurance United States /Economics
MI National Health Insurance United States /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration

Item: 424

UI 92245720
AU Hetsko CM
TI **Health care financing** reform in Wisconsin: prescription for the
future 'Medicina nusquam non est' (medicine is universal): XI
[editorial]
SO Wis Med J 1992 Apr;91(4):163-4
JT WISCONSIN MEDICAL JOURNAL
LA Eng
PT EDITORIAL
MJ Financing Government /Trends
MJ Health Services /Economics
MI Health Services /Trends
MI Wisconsin

Item: 425

UI 92245515
AU Richardson M
TI Reimbursement revolution. Medicare's RBRVS system.
SO Tex Med 1992 Mar;88(3):36-44
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Medicare
MJ Reimbursement Mechanisms
MJ Relative Value Scales
MI Adaptation Psychological
MI Cost Control
MI Fee Schedules
MI Physicians Practice Patterns /Economics
MI Physicians Practice Patterns /Standards
MI Physicians Practice Patterns /Trends
MI Physicians /Psychology
MI Societies Medical
MI Texas
MI United States
MI United States** Health Care Financing** Administration

Item: 426

UI 92244673
AU Harrop DE
TI Who reviews the reviewers?
SO Pa Med 1992 Apr;95(4):30
JT PENNSYLVANIA MEDICINE
LA Eng

PT JOURNAL ARTICLE
MJ Professional Review Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 427

UI 92244489
AU Slobodien HD
TI A minority report? [editorial]
SO N J Med 1992 Mar;89(3):187-8
JT NEW JERSEY MEDICINE
LA Eng
PT EDITORIAL
MJ Medicare /Legislation & Jurisprudence
MJ Quality Assurance Health Care /Legislation & Jurisprudence
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration
MI Cost Control /Legislation & Jurisprudence
MI Human
MI Medicare /Economics
MI Quality Assurance Health Care /Economics
MI United States

Item: 428

UI 92238526
AU Ensor PA
TI Projecting future drug expenditures--1992 [published erratum appears in Am J Hosp Pharm 1992 Apr;49(4):839]
SO Am J Hosp Pharm 1992 Jan;49(1):140-5
JT AMERICAN JOURNAL OF HOSPITAL PHARMACY
AD Practice Management and Managed Care Department, American Society of Hospital Pharmacists, Bethesda, MD.
LA Eng
AB The effects of inflation, generic competition, and the introduction of new drug entities on future drug expenditures are discussed. The impact of inflation can be predicted by analyzing trends in historical data and determining factors that may affect drug use. Useful sources include U.S. Bureau of Labor Statistics Producer Price Index figures for pharmaceuticals, commercially available data on drug product pricing, and market basket indices compiled by the **Health Care Financing** Administration (HCFA) and the American Hospital Association. HCFA predicts that quarterly increases in pharmaceutical prices in 1992-93 will range from 6.4% to 8.1%. Pharmaceutical industry analysts predict overall annual inflation rates for pharmaceuticals in 1991-92 ranging from 8% to 10%. To evaluate generic competition, information on the expiration of patents and market exclusivity can be used. Decreases of 30-70% in the list price of a drug product can be expected after the introduction of a generic product, and the price usually stabilizes at approximately 50% of the list price of the innovator product at the time the first generic product was marketed. Predicting when new drug

entities will be introduced is difficult; analysts say the usual time from filing of a new drug application to FDA approval is two years. The FDA says approval usually follows within a few weeks after an advisory panel's recommendation for approval, and marketing can be expected within a few months after final FDA approval. Assumptions about future drug expenditures should take into account historical and predicted rates of inflation, the status of generic competition for existing products, and the prospects for introduction of new drug entities.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
MJ Drug Costs /Trends
MJ Pharmacy Service Hospital /Economics
MI Drugs Generic /Economics
MI Forecasting
MI Inflation Economic
MI United States
MI United States Food and Drug Administration

Item: 429

UI 92220718
AU Griffin GC
TI Will you be able to do office lab tests under CLIA? One last chance to change better-but-still-bad regulations! [editorial] [see comments]
SO Postgrad Med 1992 Apr;91(5):25-8, 31-2, 35-8 passim
JT POSTGRADUATE MEDICINE
LA Eng
PT EDITORIAL
MJ Laboratories /Legislation & Jurisprudence
MJ Laboratory Personnel /Legislation & Jurisprudence
MJ Physicians Offices /Legislation & Jurisprudence
MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence
MI Diagnosis Laboratory /Standards
MI Laboratories /Standards
MI Laboratory Personnel /Standards
MI United States

Item: 430

UI 92220442
AU Harrop DE
TI New guidance expands documentation requirements.
SO Pa Med 1992 Mar;95(3):26
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Documentation
MJ Peer Review
MI Informed Consent
MI Medical Records
MI United States

MI United States** Health Care Financing** Administration

Item: 431

UI 92220439

AU Olmstead DL

TI Medicare monitoring of payment reform.

SO Pa Med 1992 Mar;95(3):16-8

JT PENNSYLVANIA MEDICINE

LA Eng

AB Medicare payment reform became effective January 1, 1992. One aspect is monitoring by Medicare carriers of payment reform initiatives and physician compliance with these initiatives.

PT JOURNAL ARTICLE

MJ Medicare /Economics

MI Blue Shield /Economics

MI Insurance Health Reimbursement /Economics

MI Medical Audit

MI Relative Value Scales

MI United States

MI United States** Health Care Financing** Administration

Item: 432

UI 92218048

AU Manheim LM

AU Feinglass J

AU Shortell SM

AU Hughes EF

TI Regional variation in Medicare hospital mortality.

SO Inquiry 1992 Spring;29(1):55-66

JT INQUIRY

AD Center for Health Services and Policy Research, Northwestern University, Evanston, IL 60201.

LA Eng

AB This study examines variation in severity-adjusted Medicare hospital mortality rates across nine U.S. census regions. The extent to which regional variation is reduced by controlling for differences in hospital resources and structure, county-level population characteristics, and the level of federal SuperPRO-identified hospital quality problems is estimated. Hospital resources, population characteristics, and SuperPro process quality scores are significant predictors of hospital mortality rates, but they do not explain the important, highly significant regional differences observed after controlling for hospital case-mix severity.

PT JOURNAL ARTICLE

MJ Hospital Mortality

MJ Medicare /Statistics & Numerical Data

MJ Residence Characteristics

MI Demography

MI Diagnosis-Related Groups

MI Health Resources /Statistics & Numerical Data

- MI Health Services Research /Methods
- MI Human
- MI Length of Stay /Statistics & Numerical Data
- MI Outcome Assessment Health Care
- MI Population Density
- MI Professional Review Organizations
- MI Quality of Health Care
- MI Regression Analysis
- MI Sensitivity and Specificity
- MI Severity of Illness Index
- MI Support U S Govt P H S
- MI United States
- MI United States** Health Care Financing** Administration

Item: 433

- UI 92217287
- AU Redmond AP
- TI HCFA's RBRVS and you.
- SO Conn Med 1992 Feb;56(2):101-2
- JT CONNECTICUT MEDICINE
- LA Eng
- PT JOURNAL ARTICLE
- MJ Medicare Part B /Economics
- MJ Relative Value Scales
- MJ United States** Health Care Financing** Administration
- MI Fee Schedules
- MI Health Care Costs
- MI Human
- MI United States

Item: 434

- UI 92215025
- AU O'Donohue WJ Jr
- TI Prescribing home oxygen therapy. What the primary care physician needs to know.
- SO Arch Intern Med 1992 Apr;152(4):746-8
- JT ARCHIVES OF INTERNAL MEDICINE
- AD Department of Internal Medicine, Creighton University School of Medicine, Omaha, NE.
- LA Eng
- AB Physicians who prescribe home oxygen therapy often find it difficult and time-consuming to complete the required certification of medical necessity because of a lack of in-depth knowledge concerning the Medicare requirements and treatment options. The **Health Care Financing** Administration (HCFA) now mandates that the physician or an employee of the physician complete the form to certify medical necessity (form HCFA-484); otherwise, the home oxygen supplier cannot be reimbursed for equipment and service. Since long-term oxygen therapy is essential to increase survival and to improve the quality of life for patients with hypoxemia due to chronic pulmonary disease, it is

imperative that the primary care physician understand the indications and requirements for therapy and be able to order the most appropriate equipment for the therapeutic needs. This article is intended to provide the physician with the information needed to properly prescribe home oxygen therapy.

PT JOURNAL ARTICLE
MJ Home Care Services /Economics
MJ Medicare /Legislation & Jurisprudence
MJ Oxygen Inhalation Therapy /Economics
MJ Prescriptions, Non-Drug
MI Certification
MI Drug Delivery Systems /Economics
MI Eligibility Determination /Legislation & Jurisprudence
MI Forms and Records Control
MI Human
MI Oxygen Inhalation Therapy /Instrumentation
MI Oxygen Inhalation Therapy /Methods
MI Physicians Role
MI Prescriptions, Non-Drug /Economics
MI United States
MI United States** Health Care Financing** Administration

Item: 435

UI 92214397
AU Lazenby WD
TI ... and then some.
SO Ala Med 1992 Jan;61(7):8-10
JT ALABAMA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ American Medical Association
MI Delivery of Health Care
MI Politics
MI United States
MI United States** Health Care Financing** Administration

Item: 436

UI 92213873
AU Wosnitzer M
AU Pawar AV
TI Rapid detection methods for bacterial identification in urologic office laboratory.
SO Urology 1992 Apr;39(4):334-40
JT UROLOGY
AD Department of Urology, Overlook Hospital, Summit, New Jersey.
LA Eng
AB A regulatory era is taking shape under the **Health Care Financing** Administration (HCFA) which eventually will be implemented under the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88). Sweeping changes are planned for all laboratories, including physician's office

and group practice offices. Both of these groups have previously been exempt from federal controls. Though many urologists have been doing urine cultures and colony counts in their offices for a long time, it is important that precise bacterial identification also be done for good patient care, to control quality and cost, and for more rapid results. Herein, we review many commercial kits now available for precise bacterial identification in the office laboratory. These are largely unknown to most practicing urologists but have been available to microbiologists. They easily can be learned and used in an office or group practice. Urologists are competent to perform these tests, especially with a review course or with assistance from their local hospital microbiology laboratory.

PT JOURNAL ARTICLE
MJ Microbiological Techniques
MJ Urology /Methods
MI Microbial Sensitivity Tests
MI Reagent Kits Diagnostic

Item: 437

UI 92195721
TI New physician reductions under Medicare.
SO Pa Med 1992 Feb;95(2):13-7
JT PENNSYLVANIA MEDICINE
LA Eng
AB Medicare fee schedule amounts are reduced for new physicians during their first through fourth years of practice with limited exceptions. While these reductions applied prior to the new Medicare payment system, they are impacting many new physicians for the first time under the new system. Previously, the **Health Care Financing** Administration (HCFA) did not apply the reductions to physicians in group practices. That exception no longer applies.

PT JOURNAL ARTICLE
MJ Medicare Part B
MJ Practice Management Medical /Economics
MJ Relative Value Scales
MI Human
MI Time Factors
MI United States

Item: 438

UI 92195506
TI **Health care financing**.
SO N J Med 1992 Feb;89(2):102-3
JT NEW JERSEY MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ National Health Programs /Economics
MI Financing Government
MI France
MI Germany

MI Human
MI Japan
MI Medicare /Economics
MI United States

Item: 439

UI 92189264

AU Manolio TA

AU Furberg CD

AU Wahl PW

AU Tracy RP

AU Borhani NO

AU Gardin JM

AU Fried LP

AU O'Leary DH

AU Kuller LH

TI Eligibility for cholesterol referral in community-dwelling older adults.
The Cardiovascular Health Study.

SO Ann Intern Med 1992 Apr 15;116(8):641-9

JT ANNALS OF INTERNAL MEDICINE

AD National Heart, Lung, and Blood Institute, Bethesda, MD.

LA Eng

AB OBJECTIVES: To assess the proportion of community-dwelling adults aged 65 years or older who are eligible for referral for lipoprotein analysis and intervention according to the National Cholesterol Education Program (NCEP) guidelines. DESIGN: Cross-sectional study based on examinations and questionnaires collected in 1989 and 1990. SETTING: Four communities in the U.S. in the Cardiovascular Health Study (CHS), a study of risk factors for heart disease and stroke in older adults. PARTICIPANTS: A sample of 4810 men and women ages 65 to 100 randomly selected and recruited from **Health Care Financing** Administration Medicare eligibility lists for the four communities; not institutionalized, not wheelchair-bound, not currently receiving therapy for cancer, not currently taking lipid-lowering medications, and not having eaten in the preceding 9 hours. MEASUREMENTS: Total cholesterol and lipoprotein analysis measured in all participants. RESULTS: Total cholesterol levels were less than 5.17 mmol/L (200 mg/dL) in 37% of participants, 5.17 to 6.19 mmol/L (200 to 239 mg/dL) in 39%, and 6.20 mmol/L (240 mg/dL) or greater in 24%. Compared with their counterparts, older participants, especially those over 80 years of age, were more likely to have levels below 5.17 mmol/L, as were men, nonwhites, and those with coronary heart disease or two or more coronary heart disease risk factors (P less than 0.008 for all values). Based on this screening measurement, 2174 participants were eligible for lipoprotein analysis, 80% were eligible for dietary or drug therapy using NCEP guidelines. Overall, 46% of CHS participants were eligible for lipoprotein analysis and 36% for intervention by NCEP guidelines, based on a single cholesterol measurement. CONCLUSION: A substantial proportion of older adults in this community sample were eligible for lipoprotein analysis and intervention. Prospective studies of elderly

persons are needed to determine the risk for incident coronary heart disease according to NCEP classifications and the benefits of lipid-lowering treatments in persons in this age group so that intervention strategies may best be targeted to an appropriately high-risk group.

PT JOURNAL ARTICLE
MJ Hypercholesterolemia /Prevention & Control
MI Age Factors
MI Aged
MI Aged 80 and over
MI Cerebrovascular Disorders /Etiology
MI Cerebrovascular Disorders /Prevention & Control
MI Coronary Disease /Etiology
MI Coronary Disease /Prevention & Control
MI Eligibility Determination
MI Female
MI Human
MI Hypercholesterolemia /Complications
MI Hypercholesterolemia /Epidemiology
MI Lipoproteins LDL Cholesterol /Blood
MI Longitudinal Studies
MI Male
MI Primary Prevention /Standards
MI Referral and Consultation
MI Risk Factors
MI Support U S Govt P H S
MI United States /Epidemiology

Item: 440

UI 92187424
AU Ritter J
AU Fralic MF
AU Tonges MC
AU McCormac M
TI Redesigned nursing practice: a case management model for critical care.
SO Nurs Clin North Am 1992 Mar;27(1):119-28
JT NURSING CLINICS OF NORTH AMERICA
AD Robert Wood Johnson University Hospital, New Brunswick, NJ.
LA Eng
AB Changes within the health care system necessitate changes in nursing practice. Given the financial environment and the need to balance the cost/quality equation, case management will become increasingly important and has the potential to become the predominant care delivery system of the 1990s. This transition represents a tremendous opportunity for nursing. The CCM role offers many potential advantages and benefits for individual nurses and the profession as a whole. Nurses practicing as case managers have the opportunity to function in a highly professional, independent manner with a great deal of interdisciplinary collaboration. In addition to the challenges and satisfactions of the work itself, the nurse case manager may also enjoy

a higher salary and more scheduling control and flexibility. The broader advantages of case management include its benefits to patients and institutions and its fit with current trends in the health care environment. Nurse case managers manage hospital systems to produce optimal clinical outcomes for patients in the shortest time using as few resources as possible. This approach to care delivery places nurses in a position to demonstrate the tremendous contribution they can make to achieving the institution's goal of delivering high-quality, cost-effective care. Thus, case management fits extremely well with current trends in **health care financing** and outcome measurement. The model described in this article illustrates one approach to implementing these important concepts in a critical care setting.

PT JOURNAL ARTICLE
MJ Critical Care /Manpower
MJ Intensive Care Units /Organization & Administration
MJ Models Nursing
MJ Nursing Staff Hospital /Organization & Administration
MJ Nursing Team /Organization & Administration
MJ Patient Care Planning /Organization & Administration
MI Clinical Protocols
MI Critical Care /Standards
MI Human
MI Interprofessional Relations
MI New Jersey
MI Organizational Innovation
MI Specialties Nursing

Item: 441

UI 92185941
AU Wilensky GR
AU Mason JO
TI From the **Health Care Financing** Administration.
SO JAMA 1992 Apr 1;267(13):1722
JT JAMA
AD US Public Health Service.
LA Eng
PT JOURNAL ARTICLE
MJ Facility Regulation and Control /Legislation & Jurisprudence
MJ Laboratories /Standards
MI Laboratory Personnel /Standards
MI Quality Assurance Health Care
MI United States
MI United States** Health Care Financing** Administration

Item: 442

UI 92181282
AU Wilkerson DL
AU Batavia AI
AU DeJong G
TI Use of functional status measures for payment of medical rehabilitation

services [see comments]

SO Arch Phys Med Rehabil 1992 Feb;73(2):111-20

JT ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION

AD National Rehabilitation Hospital Research Center, Washington, DC 20010.

LA Eng

AB In the search for an appropriate payment system for medical rehabilitation hospitals and units, the use of a functional status measure (FSM) has emerged as a recurring theme. Conceptually, functional status measurement is important because the primary goal of medical rehabilitation is to enhance patient function and independence. Studies indicate that functional status and functional gain are among the best predictors of resource utilization at rehabilitation facilities. This article examines conceptually the use of FSMs in payment for medical rehabilitation in two different types of payment systems--as a means of classifying patients for purposes of determining the applicable payment amount (ie, a "classification system"), and as a means of justifying that payment, or continued payment, for services is appropriate (ie, a "justification system"). Several payment models using an FSM are described and analyzed. An agenda for future research is proposed.

PT JOURNAL ARTICLE

MJ Insurance Health Reimbursement

MJ Outcome Assessment Health Care

MJ Rehabilitation /Economics

MI Diagnosis-Related Groups

MI Human

MI Models Theoretical

MI Prospective Payment System

MI Rehabilitation Centers /Economics

MI Tax Equity and Fiscal Responsibility Act

MI United States

MI United States** Health Care Financing** Administration

Item: 443

UI 92167500

AU Goldberg KC

AU Hartz AJ

AU Jacobsen SJ

AU Krakauer H

AU Rimm AA

TI Racial and community factors influencing coronary artery bypass graft surgery rates for all 1986 Medicare patients [see comments]

SO JAMA 1992 Mar 18;267(11):1473-7

JT JAMA

AD Division of Biostatistics and Clinical Epidemiology, Medical College of Wisconsin, Milwaukee.

LA Eng

AB OBJECTIVE--This study examines the differences in the rates of coronary artery bypass grafting (CABG) between white and black Medicare patients. DESIGN--This is a cross-sectional study with data from the 1986 **Health

Care Financing** Administration hospital claims records on all Medicare patients, the 1988 update of the Bureau of Health Professions area resource file, and the 1985 Census Bureau's county population estimates file. SETTING--Data are from all Medicare patients in the United States in 1986. MAIN OUTCOME MEASURES--Sex- and age-adjusted CABG rates for whites and blacks over the age of 65 years were computed for each of 50 states and 305 Standard Metropolitan Statistical Areas (SMSAs). RESULTS--Nationally the CABG rate was 27.1 per 10,000 for whites (40.4 for white men and 16.2 for white women), but only 7.6 for blacks (9.3 for black men and 6.4 for black women). Racial differences were greater in the Southeast, particularly in nonmetropolitan areas, than in other regions. Neither white nor black SMSA rates were associated with the rate of admission for acute myocardial infarction (an indication of the amount of coronary artery disease). White rates, but not black rates, were associated with the number of thoracic surgeons per 100,000 people. CONCLUSIONS--For patients insured by Medicare, race is strongly associated with CABG rates, and this association is greater for men than for women and greater in the Southeast than in other parts of the country. Physician supply may relate to the CABG rates for whites.

PT JOURNAL ARTICLE
 MJ Blacks /Statistics & Numerical Data
 MJ Coronary Artery Bypass /Utilization
 MJ Health Services Accessibility /Statistics & Numerical Data
 MJ Medicare Part A /Statistics & Numerical Data
 MI Aged
 MI Catchment Area Health /Statistics & Numerical Data
 MI Comparative Study
 MI Coronary Artery Bypass /Statistics & Numerical Data
 MI Cross-Sectional Studies
 MI Female
 MI Health Services Research /Methods
 MI Human
 MI Male
 MI Surgery /Manpower
 MI United States
 MI Whites /Statistics & Numerical Data

Item: 444

UI 92160472
 AU Michels KA
 TI HCFA issues final rule on "Medicare payment; Fee Schedule for Physicians' Services".
 SO AANA J 1991 Dec;59(6):508-15
 JT AANA JOURNAL
 LA Eng
 PT JOURNAL ARTICLE
 MJ Anesthesiology /Economics
 MJ Fee Schedules
 MJ Medicare
 MJ Nurse Anesthetists /Economics

MI Human
MI Relative Value Scales
MI United States
MI United States** Health Care Financing** Administration

Item: 445

UI 92157939
TI Medicare influenza vaccine demonstration--selected states, 1988-1992.
SO MMWR Morb Mortal Wkly Rep 1992 Mar 6;41(9):152-5
JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT
LA Eng
AB Influenza and its complications remain a major cause of premature death and debilitating illness in the United States, particularly among older persons and those with chronic medical conditions. However, only 30% of persons greater than or equal to 65 years of age responding to the 1989 National Health Interview Survey reported having received influenza vaccine during the previous year (CDC, unpublished data, 1991). In 1988, the **Health Care Financing** Administration (HCFA) and CDC began a congressionally mandated 4-year demonstration project to evaluate the cost-effectiveness of providing influenza vaccine under Medicare. This report reviews preliminary results of the Medicare Influenza Vaccine Demonstration during 1988-1992.
PT JOURNAL ARTICLE
MJ Influenza /Prevention & Control
MJ Influenza Vaccine
MJ Medicare
MI Aged
MI Cost-Benefit Analysis
MI Health Promotion
MI Human
MI Influenza /Economics
MI State Health Plans /Economics
MI United States
MI Vaccination /Utilization

Item: 446

UI 92155629
AU Anderson HJ
TI Home care PPS demonstration edges forward.
SO Hospitals 1992 Mar 5;66(5):58-9
JT HOSPITALS
LA Eng
PT JOURNAL ARTICLE
MJ Home Care Services /Economics
MJ Medicare /Trends
MJ Prospective Payment System /Trends
MI Financial Management Hospital /Trends
MI Pilot Projects
MI United States
MI United States** Health Care Financing** Administration

Item: 447

UI 92155624

AU Sabatino F

AU Koska MT

AU Burke M

AU Hudson T

TI Clinical quality initiatives: the search for meaningful--and accurate--measures.

SO Hospitals 1992 Mar 5;66(5):26-32, 34, 36-40

JT HOSPITALS

LA Eng

AB At times, it seems as though every hospital, hospital association, philanthropic foundation and major corporation in the United States is involved in the quality movement in health care. The explosion of quality measurement initiatives that began in the 1980s is continuing apace, with earlier programs being expanded, enhanced, modified and replicated throughout the country in a variety of settings. This cover story looks at the broad efforts to develop clinical quality measurement tools from four different perspectives. First, we provide an update on the Maryland Quality Indicator Project and its ongoing use as a role model for many of the newer clinical indicator projects now being developed. Part two looks at the Joint Commission on Accreditation of Healthcare Organizations and its Agenda for Change project, as well as other large-scale quality measurement programs under way in the private sector that are attempting to determine what indicators are meaningful to use. Part three examines the growing role of corporate payers in pushing hospital-comparison and other assessment programs forward. And in the final section, we look at the federal government's role in developing practice guidelines and outcomes research.

PT JOURNAL ARTICLE

MJ Health Services Research /Methods

MJ Hospitals /Standards

MJ Outcome Assessment Health Care /Standards

MI Clinical Protocols

MI Data Collection

MI Hospital Information Systems

MI Joint Commission on Accreditation of Healthcare Organizations

MI Models Theoretical

MI Reference Standards

MI Societies Hospital

MI United States

MI United States Agency for Health Care Policy and Research

MI United States** Health Care Financing** Administration

Item: 448

UI 92153432

AU Millman DS

AU Kisslo J

TI **Health Care Financing** Administration release of final physician

payment reform regulation.

SO J Am Soc Echocardiogr 1992 Jan-Feb;5(1):103-6
JT JOURNAL OF THE AMERICAN SOCIETY OF ECHOCARDIOGRAPHY
AD Department of Medicine, Duke University Medical Center, Durham, NC.
LA Eng
AB The **Health Care Financing** Administration has released final regulations concerning physician payment reform. The new method will significantly affect global, technical, and professional reimbursement. The American Society of Echocardiography is preparing response to these regulations.
PT JOURNAL ARTICLE
MJ Echocardiography /Economics
MJ Medicare Part B /Legislation & Jurisprudence
MJ Relative Value Scales
MI Fee Schedules /Legislation & Jurisprudence
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 449

UI 92152168
AU Tudor JM
TI Medicare hassles and family physicians.
SO Am Fam Physician 1992 Feb;45(2):487-8
JT AMERICAN FAMILY PHYSICIAN
LA Eng
PT JOURNAL ARTICLE
MJ Family Practice /Economics
MJ Medicare Part B /Organization & Administration
MI Human
MI Insurance Claim Review
MI Medicare Part B /Classification
MI Office Visits
MI Professional Review Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 450

UI 92150068
AU Harrop DE
TI Update: Medicare patient records in physicians' offices.
SO Pa Med 1992 Jan;95(1):58-9
JT PENNSYLVANIA MEDICINE
LA Eng
AB We have become aware of a growing concern among physicians who are under the impression that review of Medicare patients' records in physicians' offices is imminent. Our current activity of reviewing care provided by health maintenance organizations (HMOs) may have caused some physicians to believe that such review had already started. HMO review may, at times, include a request for office records, but such requests are made

to the HMO. The review does not take place at the physician's office.

PT JOURNAL ARTICLE
MJ Medical Records
MJ Medicare
MJ Physicians Offices
MI Human
MI Medical Audit
MI United States
MI United States** Health Care Financing** Administration

Item: 451

UI 92137846
AU Wilensky GR
AU Rossiter LF
TI Coordinated care and public programs.
SO Health Aff (Millwood) 1991 Winter;10(4):62-77
JT HEALTH AFFAIRS
AD Medical College of Virginia, Virginia Commonwealth University.
LA Eng
PT JOURNAL ARTICLE
MJ Managed Care Programs /Trends
MJ Medicaid /Organization & Administration
MJ Medicare /Organization & Administration
MI Fees Medical
MI Health Maintenance Organizations /Trends
MI Medicaid /Trends
MI Medicare /Trends
MI Primary Health Care /Economics
MI Primary Health Care /Organization & Administration
MI Professional Review Organizations
MI United States
MI United States** Health Care Financing** Administration

Item: 452

UI 92132999
AU Shigeoka JW
AU Stults BM
TI Home oxygen therapy under Medicare. A primer.
SO West J Med 1992 Jan;156(1):39-44
JT WESTERN JOURNAL OF MEDICINE
AD Section of Pulmonary and General Medicine, Veterans Affairs Medical Center, Salt Lake City, UT 84148.
LA Eng
AB Medicare recently implemented a new, strict, and complex home oxygen policy and a new oxygen prescription form. Unfortunately, the lack of instructions for the form has led to confusion, frustration, and suboptimal treatment. Long-term oxygen therapy prolongs survival, ameliorates hypoxic organ dysfunction, and improves exercise endurance. Indications for therapy include hypoxemia caused by cardiopulmonary diseases, hypoxemia that occurs with sleep or exercise, and hypoxemic

organ dysfunction. Patients should be stable and have an arterial blood oxygen tension (PaO₂) of 55 mm of mercury (7.3 kPa) or less or arterial blood oxygen saturation (SaO₂) of 88% or less. There should be evidence of hypoxic organ dysfunction when the (PaO₂) is 56 to 59 mm of mercury (7.4 to 7.8 kPa) or the SaO₂ is 89%. A medical review by the insurance carrier is required if oxygen is to be prescribed when hypoxemia is less severe--if the PaO₂ is 60 mm of mercury (8.0 kPa) or more or if the SaO₂ is 90% or more. The instructions for oxygen flow, duration, and equipment must be explicit to ensure adequate therapy. An oxygen concentrator with a small oxygen cylinder portable system fulfills most needs. Oxygen cylinders may be used at low flows for patients who require therapy only during sleep or where electrical power is unreliable. A liquid oxygen system may be prescribed for active patients. Portable equipment should be provided in addition to stationary equipment when patients have resting hypoxemia. Portable equipment alone is sufficient when there is exercise-related hypoxemia with normal oxygenation at rest. Newly developed oxygen-conserving devices may offer longer ambulatory times and possibly lower operating costs.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
MJ Home Nursing
MJ Medicare
MJ Oxygen Inhalation Therapy
MI Anoxemia /Blood
MI Anoxemia /Therapy
MI Certificate of Need
MI Equipment Design
MI Forms and Records Control
MI Human
MI Lung Diseases Obstructive /Blood
MI Lung Diseases Obstructive /Therapy
MI Oxygen /Blood
MI Oxygen Inhalation Therapy /Instrumentation
MI Oxygen Inhalation Therapy /Methods
MI Prescriptions, Non-Drug
MI Time Factors
MI United States
MI United States** Health Care Financing** Administration

Item: 453

UI 92131568
AU Harrop DE
TI HCFA mandates new quality screens (more emphasis on histories and physicals and perioperative monitoring).
SO Pa Med 1991 Nov;94(11):42-3
JT PENNSYLVANIA MEDICINE
LA Eng
AB As standards of care are redefined based on new technology or new constructs of what constitutes quality, we can expect changes in the criteria by which our clinical activities are assessed. This is

certainly true for peer review conducted under PRO programs, since the starting point for review is the application of criteria and screens. Review criteria are essentially developed by the PROs and, in Pennsylvania, with assistance of specialty society liaisons. The generic quality screens are HCFA-developed, and their use is mandated. Recently, all PROs received a Directed Change Order (DCO) in which newly revised outpatient generic quality screens were released.

PT JOURNAL ARTICLE
MJ Intraoperative Monitoring /Standards
MJ Medical History Taking /Standards
MJ Physical Examination /Standards
MJ Professional Review Organizations
MJ Quality Assurance Health Care /Standards
MI Human
MI Pennsylvania
MI United States
MI United States** Health Care Financing** Administration

Item: 454

UI 92129955
AU Brouillette JN
TI Lost in space.
SO J Fla Med Assoc 1991 Dec;78(12):833
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
LA Eng
PT JOURNAL ARTICLE
MJ Fees Medical
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 455

UI 92123338
AU Kelleher C
TI Validated indexes: key to nursing acuity standardization.
SO Nurs Econ 1992 Jan-Feb;10(1):31-7
JT NURSING ECONOMICS
LA Eng
AB Classification systems for nurse staffing could be standardized and used in reimbursement and outcome studies if validated health status and illness severity measures were used as proxies for nursing acuity.
PT JOURNAL ARTICLE
MJ Nursing Care /Standards
MJ Nursing Service Hospital /Manpower
MJ Patients /Classification
MI American Nurses Association
MI Diagnosis-Related Groups
MI Human
MI Nursing Diagnosis

MI Personnel Staffing and Scheduling
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI United States
MI United States** Health Care Financing** Administration

Item: 456

UI 92117907
AU Foreman J
TI Ophthalmologists lose big under RBRVS [news] [see comments]
SO Arch Ophthalmol 1992 Jan;110(1):22
JT ARCHIVES OF OPHTHALMOLOGY
LA Eng
PT NEWS
MJ Medicare /Economics
MJ Ophthalmology /Economics
MJ Relative Value Scales
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 457

UI 92116400
AU Fishbain K
TI The interrelationship between quality and information systems.
SO Top Health Care Financ 1991 Winter;18(2):85-8
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospital Information Systems /Standards
MJ Interdepartmental Relations
MJ Quality Assurance Health Care /Organization & Administration
MI Hospital Information Systems /Trends
MI Hospital Information Systems /Utilization
MI Human
MI Joint Commission on Accreditation of Healthcare Organizations
MI Organizational Objectives
MI United States

Item: 458

UI 92116399
AU Hanson RA
AU Gilmore D
TI A systemwide approach to quality management.
SO Top Health Care Financ 1991 Winter;18(2):81-4
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Institutional Management Teams /Organization & Administration
MJ Multi-Institutional Systems /Standards

MJ Quality Assurance Health Care /Organization & Administration
MI Human
MI Organizational Objectives
MI Planning Techniques
MI United States

Item: 459

UI 92116398
AU Edison S
AU Esmond T
TI Information requirements for assessing quality of care.
SO Top Health Care Financ 1991 Winter;18(2):75-80
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Data Interpretation Statistical
MJ Outcome and Process Assessment Health Care /Organization & Administration
MJ Quality Assurance Health Care /Organization & Administration
MI Decision Making Organizational
MI Human
MI Management Information Systems
MI Models Theoretical
MI United States

Item: 460

UI 92116397
AU Bolster CJ
TI Quality research initiatives.
SO Top Health Care Financ 1991 Winter;18(2):7-11
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Health Services Research /Trends
MJ Quality Assurance Health Care /Trends
MI Clinical Protocols /Standards
MI Consumer Participation
MI Databases Factual
MI Health Services Research /Organization & Administration
MI Human
MI Marketing of Health Services /Standards
MI Patient Satisfaction
MI Quality Assurance Health Care /Organization & Administration
MI Risk Factors
MI Severity of Illness Index
MI Treatment Outcome
MI United States

Item: 461

UI 92116396

AU Sobczak C
AU Chaillet JR Jr
AU Bradford D
AU Makleff R
TI Quality measurement and management in an HMO setting.
SO Top Health Care Financ 1991 Winter;18(2):67-74
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Health Maintenance Organizations /Standards
MJ Quality Assurance Health Care /Organization & Administration
MI Accreditation
MI Clinical Protocols /Standards
MI Data Interpretation Statistical
MI Facility Regulation and Control
MI Health Maintenance Organizations /Legislation & Jurisprudence
MI Health Maintenance Organizations /Organization & Administration
MI Human
MI Industry /Standards
MI Program Development
MI Quality Assurance Health Care /Legislation & Jurisprudence
MI Quality Assurance Health Care /Trends
MI Quality Control
MI Treatment Outcome
MI United States
MI United States** Health Care Financing** Administration

Item: 462

UI 92116395
AU Jensen J
TI Marketing hospital quality.
SO Top Health Care Financ 1991 Winter;18(2):58-66
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospitals /Standards
MJ Marketing of Health Services /Methods
MJ Patient Satisfaction
MJ Quality of Health Care
MI Decision Making
MI Human
MI Marketing of Health Services /Standards
MI Models Theoretical
MI Patients /Psychology
MI Physicians Role
MI Quality Assurance Health Care /Organization & Administration
MI United States

Item: 463

UI 92116394

AU Graham RG
AU DePorter JG
TI An approach to assessing resource utilization and clinical outcomes in a hospital setting.
SO Top Health Care Financ 1991 Winter;18(2):53-7
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Hospitals /Utilization
MJ Outcome Assessment Health Care /Methods
MJ Utilization Review /Organization & Administration
MI Diagnosis-Related Groups
MI Hospitals /Standards
MI Human
MI Program Development
MI Severity of Illness Index
MI United States

Item: 464

UI 92116393
AU Graham RG
AU DePorter JG
TI Managing nursing quality.
SO Top Health Care Financ 1991 Winter;18(2):46-52
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Nursing Audit /Methods
MJ Nursing Service Hospital /Standards
MJ Quality Assurance Health Care /Organization & Administration
MI Forecasting
MI Human
MI Joint Commission on Accreditation of Healthcare Organizations
MI Models Theoretical
MI Nursing Care /Standards
MI Nursing Service Hospital /Organization & Administration
MI Quality Assurance Health Care /Trends
MI United States

Item: 465

UI 92116392
AU O'Brien JL
AU Hughes EF
TI The physician's role in quality assessment and improvement.
SO Top Health Care Financ 1991 Winter;18(2):33-45
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Physicians Role
MJ Quality Assurance Health Care /Organization & Administration

MI Clinical Protocols /Standards
MI Efficiency
MI Health Services Accessibility /Standards
MI Human
MI Models Statistical
MI Patient Satisfaction
MI Severity of Illness Index
MI Treatment Outcome
MI United States

Item: 466

UI 92116391
AU Binns GS
TI The relationship among quality, cost, and market share in hospitals.
SO Top Health Care Financ 1991 Winter;18(2):21-32
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Health Care Costs
MJ Hospital Administration /Standards
MJ Marketing of Health Services /Standards
MJ Quality of Health Care
MI Cost-Benefit Analysis
MI Data Collection /Methods
MI Data Interpretation Statistical
MI Economics
MI Fees and Charges
MI Hospital Administration /Economics
MI Human
MI Length of Stay /Statistics & Numerical Data
MI Marketing of Health Services /Economics
MI Outcome and Process Assessment Health Care
MI Quality Assurance Health Care
MI Treatment Outcome
MI United States

Item: 467

UI 92116390
AU Whetsell GW
TI Total quality management.
SO Top Health Care Financ 1991 Winter;18(2):12-20
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Quality Assurance Health Care /Organization & Administration
MI Data Interpretation Statistical
MI Decision Making Organizational
MI Economic Competition
MI Human
MI Interdepartmental Relations

MI Organizational Objectives
MI Patient Satisfaction
MI Process Assessment Health Care
MI Quality Assurance Health Care /Economics
MI Systems Analysis
MI United States

Item: 468

UI 92116389
AU Newman JA Jr
TI Lessons in quality from other industry experiences.
SO Top Health Care Financ 1991 Winter;18(2):1-6
JT TOPICS IN **HEALTH CARE FINANCING**
LA Eng
PT JOURNAL ARTICLE
MJ Industry /Standards
MJ Quality Assurance Health Care /Organization & Administration
MI Economic Competition
MI Human
MI Industry /Economics
MI Industry /Trends
MI Marketing of Health Services /Trends
MI Planning Techniques
MI Quality Assurance Health Care /Trends
MI Quality Control
MI United States

Item: 469

UI 92095828
AU Foreman J
TI Behavior offset is rejected by organized medicine [letter]
SO Arch Ophthalmol 1991 Nov;109(11):1507
JT ARCHIVES OF OPHTHALMOLOGY
LA Eng
PT LETTER
MJ Physicians Practice Patterns /Economics
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration /Economics
MI American Medical Association
MI Human
MI Ophthalmology
MI Physicians Practice Patterns /Legislation & Jurisprudence
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 470

UI 92093413
AU Hartman M
TI Medicare reform includes global surgery package.

SO Pa Med 1991 Oct;94(10):25
JT PENNSYLVANIA MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Fee Schedules
MJ Medicare Part A /Economics
MJ Surgery
MI Accounts Payable and Receivable
MI United States
MI United States** Health Care Financing** Administration

Item: 471

UI 92093410
AU Wofford H
TI An interview with Senator Wofford.
SO Pa Med 1991 Oct;94(10):16, 18
JT PENNSYLVANIA MEDICINE
LA Eng
PT INTERVIEW
MJ Health Policy /Legislation & Jurisprudence
MJ Health Services Accessibility /Legislation & Jurisprudence
MI Human
MI Laboratories /Legislation & Jurisprudence
MI Medicare /Economics
MI Pennsylvania
MI United States
MI United States** Health Care Financing** Administration

Item: 472

UI 92092046
AU Sheiner LB
AU Easterling MJ
AU Mozes B
AU Brown A
TI Laboratory data predicts survival post hospitalization.
SO J Clin Epidemiol 1991;44(12):1387-403
JT JOURNAL OF CLINICAL EPIDEMIOLOGY
AD Department of Laboratory Medicine, University of California, San Francisco School of Medicine 94143.
LA Eng
AB From a database of 93,077 in-patient admissions, patients assigned to catastrophic, very severe, moderately severe, and average 30-day mortality risk categories (as defined in Medicare Hospital Mortality Information, 1989 release, from the **Health Care Financing** Administration (HCFA) were selected for study. These admissions account for 30% of all admissions, but 70% of all deaths up to 1 year post admission. To determine whether laboratory information adds to the predictive power of the information used by HCFA, we compare the performance of 1 year survival predictors (Cox model) that use only diagnostic, demographic, and comorbidity information, with the

performance of predictors that also include laboratory information. Using a separate set of patients not used for model definition, we find that laboratory data contain significant prognostic information independent of that already available in non-laboratory data. In HCFA's catastrophic disorders for example, non-laboratory information reduces the average risk of predicting a wrong outcome by 17% relative to considering only catastrophic group membership, and adding laboratory data reduces this risk by a further 21%. These improvements result primarily from considering the outcomes of a small set of routine laboratory tests (maximum BUN, AST, and WBC, and minimum CO2, hematocrit, and sodium).

PT JOURNAL ARTICLE
MJ Diagnosis Laboratory
MJ Patient Admission
MJ Proportional Hazards Models
MJ Severity of Illness Index
MJ Survival Analysis
MI Comorbidity
MI Diagnosis-Related Groups
MI Evaluation Studies
MI Human
MI Medicare
MI Predictive Value of Tests
MI Prognosis
MI Risk Factors
MI San Francisco /Epidemiology
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration

Item: 473

UI 92090639
AU Freston JW
TI The public policy plan of the American Gastroenterological Association.
SO Gastroenterology 1992 Jan;102(1):3-6
JT GASTROENTEROLOGY
AD Department of Medicine, University of Connecticut Health Center,
Farmington 06030.
LA Eng
PT JOURNAL ARTICLE
MJ Gastroenterology
MJ Public Policy
MJ Societies Medical
MI Education Medical Graduate
MI Government
MI Health Services Accessibility
MI Philosophy
MI Research
MI United States

MI United States** Health Care Financing** Administration

Item: 474

UI 92089780

AU MacEwan DW

AU Moorefield JM

AU Sunshine JH

TI Physician payment reform: issues for Canadian radiologists.

SO Can Assoc Radiol J 1991 Dec;42(6):406-11

JT CANADIAN ASSOCIATION OF RADIOLOGISTS JOURNAL

AD Faculty of Medicine, University of Manitoba, Winnipeg.

LA Eng

AB Policy decisions taken by the US Congress in the 1980s to restrain health care costs included the designation of diagnostic-related groups, the creation of scales of relative value and legislation to introduce free-for-service payment to physicians in 1992; discrepancies in the system are to be corrected by 1996. Under federal contract a system of resource-based relative-value scales was created for all medical disciplines except radiology, which by special legislation prepared its own experience-based relative-value scale. The scales are based on magnitude estimation of the work of physicians and analyses of actual costs. Codes for medical services have been published, which include a weighting for each service in relation to all others. Multiplication by a conversion factor establishes the fee to be paid by the carriers acting for the **Health Care Financing** Administration. The relative values will be updated every 5 years. Publication of this information for US Medicare patients (the disabled, the elderly and those with end-stage renal disease) will likely have a profound effect on the physician payment system in Canada. Under the reformed system the lifetime earnings of all physicians will become more similar. Four problem areas are discussed in the paper: self-referral, administrative complexity, malpractice and the plight of those without medical coverage. Resolution of these problems is being actively sought.

PT JOURNAL ARTICLE

MJ Fee Schedules

MJ Insurance Physician Services /Trends

MJ Radiology /Economics

MI Canada

MI Malpractice /Economics

MI Medically Uninsured

MI Medicare Part B

MI Referral and Consultation /Economics

MI Reimbursement Mechanisms /Trends

MI Relative Value Scales

MI United States

Item: 475

UI 92080301

AU Harris-Wehling J

AU McGeary MG

TI Medicare: a strategy for quality assurance, IV: Medicare conditions of participation and quality assurance [see comments]
 SO QRB Qual Rev Bull 1991 Oct;17(10):320-3
 JT QRB. QUALITY REVIEW BULLETIN
 AD Institute of Medicine, National Academy of Sciences, Washington, DC 20418.
 LA Eng
 AB This article, the fourth of a series, summarizes the conclusions of the review of the Medicare conditions of participation and accreditation conducted by the Institute of Medicine (IOM). Difficulties in measuring outcomes of care, limitations in survey information, attitudes toward sanctions, and variation in survey procedures are discussed.
 PT JOURNAL ARTICLE
 MJ Accreditation /Organization & Administration
 MJ Hospitals /Standards
 MJ Medicare /Standards
 MJ Quality Assurance Health Care /Organization & Administration
 MI Certification /Organization & Administration
 MI Health Services Research
 MI Human
 MI Institute of Medicine U S
 MI Joint Commission on Accreditation of Healthcare Organizations
 MI Professional Review Organizations
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Support U S Govt P H S
 MI United States
 MI United States** Health Care Financing** Administration

Item: 476

UI 92080298
 AU Nash DB
 AU Johnson NE
 AU Gottlieb JE
 AU Vlasses PH
 TI Monoclonal antibodies for septic shock: in or out of the barn door? [see comments]
 SO QRB Qual Rev Bull 1991 Oct;17(10):310-3
 JT QRB. QUALITY REVIEW BULLETIN
 AD Thomas Jefferson University Hospital, Philadelphia, PA 19107-5099.
 LA Eng
 PT JOURNAL ARTICLE
 MJ Antibodies Monoclonal /Therapeutic Use
 MJ Bacteremia /Economics
 MJ Drug Utilization /Standards
 MJ Gram-Negative Bacterial Infections /Economics
 MJ Pharmacy and Therapeutics Committee
 MJ Shock Septic /Economics
 MI Bacteremia /Mortality
 MI Bacteremia /Therapy

MI Clinical Protocols
MI Cost-Benefit Analysis
MI Diagnosis-Related Groups
MI Drug Costs
MI Drug Utilization /Economics
MI Gram-Negative Bacterial Infections /Mortality
MI Gram-Negative Bacterial Infections /Therapy
MI Hospital Bed Capacity 500 and over
MI Human
MI Philadelphia
MI Reimbursement Mechanisms
MI Shock Septic /Mortality
MI Shock Septic /Therapy
MI United States
MI United States** Health Care Financing** Administration

Item: 477

UI 92079340
AU Maloney JV Jr
TI A critical analysis of the resource-based relative value scale
[published erratum appears in JAMA 1992 Jun 3;267(21):2896] [see
comments]
SO JAMA 1991 Dec 25;266(24):3453-8
JT JAMA
AD Department of Surgery, UCLA School of Medicine 90024-1741.
LA Eng
AB BACKGROUND--There is a general perception that procedural medical
services are reimbursed at an inappropriately greater rate than
cognitive services. By congressional mandate, the **Health Care
Financing** Administration (HCFA) has been directed to establish a
Medicare fee schedule to shift funding under a budget-neutral assumption
from procedural to cognitive services. To provide a rational basis for
this change, Hsiao et al (Harvard-Hsiao) developed a resource-based
relative value scale (RBRVS) that equates the value of a service to the
resources necessary to generate the service. METHODS--Instead of
focusing on relative values and fee schedules
("price-per-unit-service"), the present study employs the standard
commercial/industrial method of determining reimbursement rate (income
divided by hours of labor) for 15 medical and surgical specialties.
Data from independent sources are used to determine income and hours of
professional effort for each of the specialties studied. Harvard-Hsiao
and HCFA predicted the percent change in income for each of the
specialties under the initial RBRVS and the HCFA fee schedule. The
predicted income was then employed in this study to recompute
reimbursement rates under the newly proposed payment systems. RESULTS:
CURRENT PAYMENT SYSTEM--Average annual incomes for medical and surgical
specialties are \$124,500 and \$176,600, respectively, a 42% difference (P
= .03). Average weekly work hours (nominal hours, as adjusted for
overtime) for medical and surgical specialties are 70.6 and 87.8,
respectively (P = .005). Average hourly reimbursement rates for medical

(\$33.90) and surgical (\$38.80) specialties are not substantially different (P, not significant). The difference in annual income is explained by the 17.2 hours per week of additional work hours by surgeons. The erroneous perception that procedurists are reimbursed at a higher rate than cognitive practitioners likely arises from differences in billing methods by which surgeons shift charges for cognitive work hours to the 18% of their time spent in the operating room. RESULTS: PROPOSED RBRVS AND HCFA PAYMENT SYSTEM--The income of all specialties is equalized about a mean of \$132,500 (+/- \$21,400 [1 SD]) by varying reimbursement rates in such a way that the effect of working hours is fully discounted. Reimbursement rates under the proposed payment system make no recognition of the hours of professional effort, postgraduate specialty training, or putative differences in the nature of the physician's work. CONCLUSION.--The RBRVS, and the HCFA fee schedule to the extent that it is based on that scale, are inappropriate bases for the reform of the physician reimbursement system.

PT JOURNAL ARTICLE
MJ Reimbursement Mechanisms /Economics
MJ Relative Value Scales
MJ Specialties Medical /Economics
MJ Specialties Surgical /Economics
MI Cognition
MI Evaluation Studies
MI Fee Schedules /Legislation & Jurisprudence
MI Income
MI Medicare Part B /Legislation & Jurisprudence
MI Rate Setting and Review /Legislation & Jurisprudence
MI Support, Non-U.S. Gov't
MI United States
MI United States** Health Care Financing** Administration
MI Workload

Item: 478

UI 92079325
AU Wilensky GR
TI From the **Health Care Financing** Administration.
SO JAMA 1991 Dec 25;266(24):3404
JT JAMA
AD Medicaid Bureau, HCFA, Baltimore, MD 21207.
LA Eng
PT JOURNAL ARTICLE
MJ Acquired Immunodeficiency Syndrome /Economics
MJ Continuity of Patient Care /Economics
MI Child
MI Female
MI Human
MI HIV Infections /Economics
MI Medicaid /Economics
MI State Health Plans /Economics
MI United States

MI United States** Health Care Financing** Administration

Item: 479

UI 92078769

AU Bailey JP Jr

AU Taylor C

TI MAG slays the dragon: the saga of HealthCare COMPARE.

SO J Med Assoc Ga 1991 Sep;80(9):483-5

JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

LA Eng

PT JOURNAL ARTICLE

MJ Medicare Part B /Economics

MJ Societies Medical

MJ United States** Health Care Financing** Administration /Organization & Administration

MJ Utilization Review /Standards

MI Aged

MI Contract Services /Economics

MI Georgia

MI Human

MI Insurance Carriers /Economics

MI United States

Item: 480

UI 92078733

AU Gomez R

TI Medicare payment reform: RBRVS ... and a whole lot more.

SO J La State Med Soc 1991 Sep;143(9):36-7

JT JOURNAL OF THE LOUISIANA STATE MEDICAL SOCIETY

AD SSA Consultants, Inc., Baton Rouge.

LA Eng

PT JOURNAL ARTICLE

MJ Medicare Assignment /Legislation & Jurisprudence

MJ Relative Value Scales

MJ United States** Health Care Financing** Administration /Legislation & Jurisprudence

MI Human

MI United States

Item: 481

UI 92077641

AU Hard R

TI New HCFA rule calls for electronic cost reports.

SO Hospitals 1991 Dec 20;65(24):44-5

JT HOSPITALS

LA Eng

PT JOURNAL ARTICLE

MJ Automatic Data Processing /Legislation & Jurisprudence

MJ Insurance Claim Reporting /Legislation & Jurisprudence

MJ Medicare Part A /Legislation & Jurisprudence

MI Software
MI United States
MI United States** Health Care Financing** Administration

Item: 482

UI 92076731
AU Birkenfeld A
AU Kase NG
TI Menopause medicine: current treatment options and trends.
SO Compr Ther 1991 Jul;17(7):36-45
JT COMPREHENSIVE THERAPY
AD Department of Obstetrics, Gynecology and Reproductive Science, Mount Sinai School of Medicine, New York, New York 10029.
LA Eng
AB Demographic trends and increasing demand, as well as the intricacy of the emerging field of menopause medicine, dictates the need for a multidisciplinary approach for the care of the peri- and postmenopausal patient. A menopausal program benefits the individual patient by obviating the acute symptoms and by preventing long-term consequences. As morbidity and mortality rates associated with the long-term implications are reduced, substantial public health aspects are also beneficially affected. Cost effectiveness of a menopause program and routine HRT should be calculated as the net present value (NPV) for the **health care financing** program, and should prove to be greater than the NPV of future costs anticipated without an investment in primary preventive menopause program. We believe that the educated use of a menopause counseling program will yield an increasing benefit for the individual patient and the community. Should menopause be regarded as an endocrinopathy, thus justifying routine HRT, or are we engaged in the "medicalization" of a physiologic process? Bearing in mind the data reviewed above, it seems to us that ample reason exists to make every woman aware of the opportunity to receive long-term HRT. The decision to use it depends heavily on the patient's own informed assessment of her particular benefit-risk equation. Combined-continuous estrogen-gestagen replacement seems to provide the desired multisystem beneficial effects, and at the same time be the most convenient and associated with the least short-term side effects. Although emerging trends regarding the long-term risks associated with the use of such regimes are reassuring, more information needs to be elaborated before final conclusions can be offered.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Estrogen Replacement Therapy /Standards
MJ Menopause /Drug Effects
MI Cardiovascular Diseases /Drug Therapy C14 C14.0
MI Cardiovascular Diseases /Prevention & Control C14 C14.0
MI Clinical Protocols /Standards
MI Drug Administration Schedule
MI Estrogen Replacement Therapy /Adverse Effects

MI Estrogen Replacement Therapy /Trends
MI Female
MI Human
MI Neoplasms /Chemically Induced C4 C4.0
MI Osteoporosis Postmenopausal /Drug Therapy
MI Osteoporosis Postmenopausal /Prevention & Control

Item: 483

UI 92074043
AU Wilcox DP
TI Texas hospital to recover legal fees after wrongful HCFA termination.
SO Tex Med 1991 Oct;87(10):60-1
JT TEXAS MEDICINE
LA Eng
PT JOURNAL ARTICLE
MJ Accreditation /Standards
MJ Hospitals /Standards
MJ Medicare
MJ United States** Health Care Financing** Administration
MI Accreditation /Legislation & Jurisprudence
MI Human
MI Liability Legal
MI Quality Assurance Health Care /Legislation & Jurisprudence
MI Quality Assurance Health Care /Standards
MI Texas
MI United States

Item: 484

UI 92073234
AU Furman S
TI Regulations by the **Health Care Financing** Administration will affect the practice of cardiac pacing [editorial]
SO PACE Pacing Clin Electrophysiol 1991 Sep;14(9):1319
JT PACE. PACING AND CLINICAL ELECTROPHYSIOLOGY
LA Eng
PT EDITORIAL
MJ Fees Medical
MJ Medicare /Economics
MJ Pacemaker Artificial /Economics
MJ United States** Health Care Financing** Administration
MI Human
MI Relative Value Scales
MI United States

Item: 485

UI 92072780
TI New AIDS testing regulations proposed for OPOs.
SO Nephrol News Issues 1991 Aug;5(8):30
JT NEPHROLOGY NEWS AND ISSUES
LA Eng

PT JOURNAL ARTICLE
MJ AIDS Serodiagnosis /Standards
MJ Organ Procurement /Standards
MJ United States Dept of Health and Human Services
MI Human
MI United States
MI United States** Health Care Financing** Administration

Item: 486

UI 92072779
AU Reiner MR
TI No matter the size, standard for OPOs should be fair and equal.
SO Nephrol News Issues 1991 Aug;5(8):29, 46
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Certification /Standards
MJ Organ Procurement /Standards
MJ Quality Assurance Health Care /Standards
MJ United States** Health Care Financing** Administration
MI Human
MI Leadership
MI Organ Procurement /Organization & Administration
MI United States

Item: 487

UI 92072778
AU Haid SD
TI HCFA's door is open to industry on shaping OPO regulations.
SO Nephrol News Issues 1991 Aug;5(8):28, 34, 46
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Organ Procurement /Standards
MJ Quality Assurance Health Care /Organization & Administration
MJ United States** Health Care Financing** Administration
MI Human
MI Organ Procurement /Organization & Administration
MI United States

Item: 488

UI 92072775
AU Rubin R
TI The Medicare fee schedule: too much, too soon.
SO Nephrol News Issues 1991 Aug;5(8):16-8
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Delivery of Health Care /Standards
MJ Fee Schedules /Standards

MJ Medicare
MJ United States** Health Care Financing** Administration
MI Cost Savings
MI Delivery of Health Care /Economics
MI Fee Schedules /Legislation & Jurisprudence
MI Human
MI United States

Item: 489

UI 92072769
AU Lundin AP
TI CQI valuable, but HCFA needs to keep tabs on clinical outcomes, too
[comment]
SO Nephrol News Issues 1991 Jul;5(7):20, 22-3
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT COMMENT
PT JOURNAL ARTICLE
MJ Hemodialysis /Standards
MJ Quality Assurance Health Care /Organization & Administration
MJ United States** Health Care Financing** Administration /Organization &
Administration
MI Human
MI Patient Satisfaction
MI Treatment Outcome
MI United States

Item: 490

UI 92072767
AU Hull AR
TI Physicians need to act to balance inequities in relative value scale.
SO Nephrol News Issues 1991 Jul;5(7):12, 14-5, 47
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ American Medical Association
MJ Cost Savings
MJ Physicians /Psychology
MJ Relative Value Scales
MJ United States** Health Care Financing** Administration /Organization &
Administration
MI Human
MI United States

Item: 491

UI 92072766
AU Neumann ME
TI A fresh approach to measuring quality care [editorial]
SO Nephrol News Issues 1991 Jun;5(6):5, 55
JT NEPHROLOGY NEWS AND ISSUES

LA Eng
PT EDITORIAL
MJ Institute of Medicine U S
MJ Kidney Failure Chronic /Therapy
MJ Quality Assurance Health Care /Standards
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 492

UI 92072765
AU Diamond L
AU Armistead N
AU Horansky C
TI A pilot study of state surveying methods for ESRD facilities [see comments]
SO Nephrol News Issues 1991 Jun;5(6):43-4, 49-52
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
AB End Stage Renal Disease (ESRD) facilities must meet certification requirements to receive Medicare reimbursement from the **Health Care Financing** Administration, Department of Health and Human Services (DHHS). State survey agencies, operating under contract with DHHS, assess compliance with conditions and standards for all Medicare facilities. The survey process has been criticized by renal professionals and organizations for its lack of objective criteria, because thresholds have not been established, and for the lack of a severity index. The current process promotes subjective decision making in determining facility deficiencies. Efforts to reorganize the survey process to make it more outcome-oriented are being initiated and, while this is laudable, there is no assurance that the process will be effective. Network #5 conducted a pilot study of state survey results to profile data for Medical Review Board (MRB) analysis and to identify potential areas where educational activities could be focused. Network #5 consists of dialysis and transplant providers in the District of Columbia (D.C.), Maryland, Virginia, and West Virginia. There are 139 dialysis facilities and 13 transplant centers serving over 7,000 dialysis patients. This pilot study was a retrospective analysis of surveys conducted in dialysis units that were operational as of August, 1988. This study did not include transplant providers.
PT JOURNAL ARTICLE
MJ Data Collection /Standards
MJ Kidney Failure Chronic /Therapy
MJ Quality Assurance Health Care /Standards
MI District of Columbia
MI Human
MI Maryland
MI Medicare
MI Pilot Projects
MI Retrospective Studies

MI Support, U.S. Gov't, Non-P.H.S.
MI United States
MI United States** Health Care Financing** Administration
MI Virginia
MI West Virginia

Item: 493

UI 92072761
AU Paganini E
TI Convincing congress and HCFA to invest in quality care [comment]
SO Nephrol News Issues 1991 Jun;5(6):29-30
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT COMMENT
PT JOURNAL ARTICLE
MJ Hemodialysis /Standards
MJ Nephrology
MJ Quality Assurance Health Care /Organization & Administration
MJ Societies Medical /Organization & Administration
MI Human
MI Organizational Policy
MI Quality Assurance Health Care /Standards
MI United States
MI United States** Health Care Financing** Administration

Item: 494

UI 92072755
AU Sargent JA
AU Paget M
AU Clevenger I
TI Planned cuts in drug payments latest in trend by HCFA seeking more for less [editorial]
SO Nephrol News Issues 1991 Jun;5(6):14-6
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT EDITORIAL
MJ Kidney Failure Chronic /Drug Therapy
MJ Reimbursement Mechanisms /Economics
MJ United States** Health Care Financing** Administration
MI Human
MI Kidney Failure Chronic /Economics
MI United States

Item: 495

UI 92072741
AU Vlcek D
AU Burrows-Hudson S
TI What we hope readers will learn.
SO Nephrol News Issues 1991 Apr;5(4):21, 32
JT NEPHROLOGY NEWS AND ISSUES

LA Eng
PT JOURNAL ARTICLE
MJ Hemodialysis /Instrumentation
MJ Manuals /Standards
MJ Quality Assurance Health Care /Standards
MJ Writing
MI Human
MI Research
MI United States
MI United States Food and Drug Administration
MI United States** Health Care Financing** Administration

Item: 496

UI 92072738
AU Rubin R
TI Medicare cuts: hopefully gone, but more likely, not forgotten (by Washington).
SO Nephrol News Issues 1991 Apr;5(4):16-7
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Kidney Failure Chronic /Economics
MJ Medicare /Economics
MI Cost Control
MI Human
MI Institute of Medicine U S
MI Kidney Failure Chronic /Therapy
MI United States
MI United States** Health Care Financing** Administration

Item: 497

UI 92072732
AU Hover J
TI HCFA health care criteria screens: can they measure up to improved quality care? Part II. Criteria screens: will they end "towing the line"?
SO Nephrol News Issues 1991 Mar;5(3):20, 22-3
JT NEPHROLOGY NEWS AND ISSUES
LA Eng
PT JOURNAL ARTICLE
MJ Kidney Failure Chronic /Therapy
MJ Medicare
MJ Quality of Health Care
MJ Quality Assurance Health Care /Standards
MJ United States** Health Care Financing** Administration
MI Human
MI United States

Item: 498

UI 92072719

AU Ward RA
 TI Understanding the regulatory requirements for dialysate.
 SO Nephrol News Issues 1991 Jan;5(1):13, 15
 JT NEPHROLOGY NEWS AND ISSUES
 LA Eng
 AB It is important for providers to remember that dialysate is considered by federal regulatory agencies to be a medical device, but that most of the regulations are aimed at the manufacturers. The manufacturers are subject to FDA inspection and they must comply with Good Manufacturing Practices. Once the product reaches the provider's door, the manufacturer's responsibility ends, as does most close regulation. The best way for facilities to protect themselves is to develop a good quality assurance program that establishes and maintains policies and procedures which will ensure safe and effective use of dialysate.

PT JOURNAL ARTICLE
 MJ Dialysis Solutions /Standards
 MJ Quality Assurance Health Care /Standards
 MI Human
 MI Quality Assurance Health Care /Legislation & Jurisprudence
 MI United States
 MI United States Food and Drug Administration
 MI United States** Health Care Financing** Administration

Item: 499

UI 92071528
 AU Scofield GR
 TI Artificial feeding: the least restrictive alternative?
 SO J Am Geriatr Soc 1991 Dec;39(12):1217-20
 JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY
 AD Department of Psychology, Craig Hospital, Englewood, Colorado.
 LA Eng
 AB Of all the reasons that justify a decision to withhold or withdraw a feeding tube, the most basic is that it is not needed in order to nourish the patient adequately and safely. The controversy that surrounds feeding tubes decisions in the so-called right-to-die context has distracted attention from this aspect of their use. This creates the risk that they will be initiated inappropriately, without adequate evaluation or consent. By re-incorporating the concepts of medical indication and the least restrictive alternative doctrine into the consent process, as new federal regulations require, physicians can restore balance to clinical judgment and deter improper practices. In order for these concepts to make a real difference to patients and physicians, society must improve the quality of care it provides the elderly.

PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Parenteral Nutrition
 MI Decision Making
 MI Ethics Medical

MI Human
MI Nursing Homes
MI United States
MI United States** Health Care Financing** Administration /Legislation & Jurisprudence

Item: 500

UI 92070910
AU McGurrin MC
AU Hadley TR
TI Quality of care and accreditation status of state psychiatric hospitals.
SO Hosp Community Psychiatry 1991 Oct;42(10):1060-1
JT HOSPITAL AND COMMUNITY PSYCHIATRY
AD Department of Psychiatry, University of Pennsylvania, Philadelphia 19104.
LA Eng
PT JOURNAL ARTICLE
MJ Accreditation /Statistics & Numerical Data
MJ Certification /Statistics & Numerical Data
MJ Hospitals Psychiatric /Standards
MJ Hospitals State /Standards
MJ Quality of Health Care /Statistics & Numerical Data
MI Data Collection
MI Human
MI Joint Commission on Accreditation of Healthcare Organizations
MI United States
MI United States** Health Care Financing** Administration

pc

ENTER ANSWER NUMBER-->2

ENTER TI (TITLE ONLY), S (SHORT FORMAT), M (MEDIUM FORMAT), L (LONG FORMAT)
TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1

ENTER DOCUMENT NUMBERS--> all

1

AN 93205230. 93064.

AU Johnson-J-E.

TI *Health* *care* *reform* and nursing `editorial:.

SO *Nurs-Health-Care.* 1993 Feb. 14(2). P 59-60.

JT NURSING AND *HEALTH* *CARE.*

PT EDITORIAL (EDI).

LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
NURSING: trends (td).

MN *DELIVERY-OF-HEALTH-CARE:* trends (td). FORECASTING. HUMAN.
UNITED-STATES.

SB Nursing Journals (N).

LI N.

YR 1993.

IS 0276-5284. N77.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930421.

2

AN 93205129. 93064.

AU Donley-R.

TI Ethics in the age of *health* *care* *reform.*

SO Nurs-Econ. 1993 Jan-Feb. 11(1). P 19-24, 51.

JT NURSING ECONOMICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The *health* *care* *reform* movement includes four ideological models.
True *reform* will capture and integrate elements of each model and
agenda, along with an underlying respect for human dignity.
Author-abstract.

MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
ETHICS-MEDICAL. MODELS-ORGANIZATIONAL. PATIENT-ADVOCACY.

MN *DELIVERY-OF-HEALTH-CARE:* standards (st). HUMAN. UNITED-STATES.

SB Nursing Journals (N).

LI N.

YR 1993.

IS 0746-1739. NUE.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930421.

3

AN 93204503. 93064.

AU Dermody-B.
 TI *Health* *care* *reform* in Kentucky--who, what, when, why and how?
 SO Ky-Nurse. 1993 Jan-Feb. 41(1). P 1-3.
 JT KENTUCKY NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-POLICY.* NURSING.
 MN COST-CONTROL. *DELIVERY-OF-HEALTH-CARE.* *HEALTH-SERVICES:* economics
 (ec). HUMAN. KENTUCKY. *LONG-TERM-CARE.*
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 0742-8367. K8S.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9306.
 ND ENTRY DATE: 930421.

4

AN 93202317. 93064.
 AU Permut-S-R.
 TI *Health* *care* *reform* what can/should we expect/do?
 SO Del-Med-J. 1993 Jan. 65(1). P 13-4.
 JT DELAWARE MEDICAL JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-CARE-COSTS.* *HEALTH-POLICY.* *INSURANCE-HEALTH.*
 MN HUMAN. UNITED-STATES.
 YR 1993.
 IS 0011-7781. E0B.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9306.
 ND ENTRY DATE: 930416.

5

AN 93198684. 93063.
 AU Kirkegaard-M-A.
 IN Hinsdale Family Practice Residency, Illinois.
 TI The physician's role in *health* *care* *reform.*
 SO J-Am-Board-Fam-Pract. 1993 Mar-Apr. 6(2). P 163-7.
 JT JOURNAL OF THE AMERICAN BOARD OF FAMILY PRACTICE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB *Health* *care* in the United States is in crisis. The desire to provide
 care continually conflicts with the need to contain costs.
 Historically, physicians have opposed the demand for *health* *care*
 reform, and although many physicians have responded to the current
 crisis with ambivalence, apathy, or frustration, they have the
 knowledge, capability, and opportunity to advocate for and to effect
 reform within the *health* *care* delivery system. Many believe that the
 acknowledgment of costs as a factor in treatment decisions

compromises their role as patient advocates, but in the face of increasing government controls and the corporatism of medicine, the human link between physician and patient is even more valuable. The current crisis in *health* *care* necessitates cost control. If physicians conscientiously undertake their political, professional, and personal roles, they can *reform* the *health* *care* delivery system in the United States while compassionately advocating for their patients. Author-abstract.

MJ *DELIVERY-OF-HEALTH-CARE.* PHYSICIANS-ROLE.

MN HUMAN. UNITED-STATES.

SB Priority Journals (M).

YR 1993.

IS 0893-8652. 127.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930415.

6

AN 93198365. 93063.

AU Adams-T-L.

TI EVP report: the view from here up close and personal with *health* *care* *reform.*

SO Wis-Med-J. 1993 Feb. 92(2). P 54, 56, 58.

JT WISCONSIN MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *HEALTH-CARE-COSTS:* trends (td). PHYSICIAN-PATIENT-RELATIONS. SICK-ROLE.

MN COST-CONTROL: trends (td). *HEALTH-BEHAVIOR.* HUMAN.

PRIMARY-HEALTH-CARE: economics (ec). WISCONSIN.

YR 1993.

IS 0043-6542. XPJ.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930413.

7

AN 93198042. 93063.

AU Richardson-M.

TI Managed competition comes to the fore in *health-care* *reform* debate.

SO Tex-Med. 1993 Mar. 89(3). P 58-61.

JT TEXAS MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ ECONOMIC-COMPETITION: legislation-and-jurisprudence (lj).

HEALTH-CARE-COSTS: legislation-and-jurisprudence (lj).

MANAGED-CARE-PROGRAMS: economics (ec). POLITICS.

MN HUMAN. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj). UNITED-STATES.

YR 1993.

IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930413.

8

AN 93191839. 93063.
AU Heyssel-R-M.
IN Johns Hopkins *Health* System and Hospital, MD 21287.
TI Beyond *"health* *care* *reform".*
SO Acad-Med. 1993 Mar. 68(3). P 178-82.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The author discusses the need to make corrections in the U.S. *health*
care system, describes the simplistic and money-oriented definition
that many persons have of *"health* *care* *reform,"* and discusses the
issues he thinks will and will not be dealt with in the coming
reforms of the *health* *care* system. He maintains that true *reform*
would deal with matters such as restraining expansion of the *health*
care industry, setting reasonable fees, and confronting the harmful
social and environmental conditions that result in high "medical"
care costs and poor *health* statistics. The medical
profession--including academic medical centers--has a large role to
play in true *health* *care* *reform,* which will involve facing the major
barriers (which he outlines) that are now impeding important *reforms*
(e.g., increasing the number of generalist physicians; finding better
ways to pay for medical students' and residents' education). The
profession cannot make progress in true *reform* without developing a
vision of what the U.S. *health* *care* system should be and becoming
active in moving toward that vision, acting in the interests of both
the individual patient and the community as a whole. The author
outlines some of the barriers to finding that vision (such as the
influence of third-party payers on the doctor-patient relationship
and the fragmentation of medicine and medical education by
specialties and subspecialties) and proposes the characteristics and
values of the kind of medical education and community involvement of
academic medical centers that can help create the needed vision,
regain the trust of the public, and thereby *reform* *health* *care* in the
interests of both the community and the profession.
Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
EDUCATION-MEDICAL: organization-and-administration (og).
PHYSICIANS-ROLE.
MN ACADEMIC-MEDICAL-CENTERS: organization-and-administration (og).
CAPITAL-FINANCING: standards (st), trends (td).
DELIVERY-OF-HEALTH-CARE: economics (ec), trends (td).
EDUCATION-MEDICAL: economics (ec), trends (td). FORECASTING.
HEALTH-SERVICES-ACCESSIBILITY: standards (st).
HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN. ORGANIZATIONAL-OBJECTIVES.

SPECIALTIES-MEDICAL: education (ed), manpower (ma). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1993.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930412.

9

AN 93191838. 93063.
AU Buchanan-J-R.
IN Massachusetts General Hospital, Boston 02114.
TI The past as prologue.
SO Acad-Med. 1993 Mar. 68(3). P 173-7.
JT ACADEMIC MEDICINE.
PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
LG English (EN).
AB What has the Association of American Medical Colleges (AAMC) accomplished in the last 25 years in its efforts to advance medical education, biomedical research, and *health* delivery in this country? Can the AAMC's past accomplishments help predict how it will respond to future challenges? To answer these questions, the author traces in detail the recent history of the AAMC, focusing on the expansion of the association's role and constituencies and how these and other changes were precipitated by recommendations in the AAMC's 1965 "Coggeshall Report." He also recounts how the AAMC has responded to the pressures and needs of recent years (such as fostering an increase in the number of practicing physicians) and describes in detail the organization and functions of the AAMC's staff, with emphasis on its six divisions and the fact that many of the complex issues that confront the AAMC transcend the boundaries of governance councils and staff divisions and dictate that association policy be based on broad consensus. Looking ahead, he sees at least four important activities that the AAMC will continue to be involved with: fostering the education of more minority students; promoting *health* services research; finding an appropriate role in the evolution of *health* *care* *reform*; and addressing the need for academic medicine to be more socially responsive. The author concludes that the AAMC's highly regarded record, its organization, and its financial stability all indicate that it will do well as it tackles the issues on the horizon and others not yet in view.(ABSTRACT TRUNCATED AT 250 WORDS).
Author-abstract.
MJ SCHOOLS-MEDICAL. SOCIETIES-MEDICAL: history (hi).
MN EDUCATION-MEDICAL-UNDERGRADUATE: trends (td). FORECASTING.
HEALTH-SERVICES-RESEARCH: trends (td).
HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. MINORITY-GROUPS.
ORGANIZATIONAL-OBJECTIVES. SOCIAL-RESPONSIBILITY.
SOCIETIES-MEDICAL: organization-and-administration (og), trends (td).
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1993.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930412.

10

AN 93189356. 93062.
AU Igoe-J-B.
TI School-linked family *health* centers in *health* *care* *reform.*
SO Pediatr-Nurs. 1993 Jan-Feb. 19(1). P 67-8.
JT PEDIATRIC NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Many of our nation's children have little or no access to *health*
care, a serious problem that threatens their *health* and well being.
If we are to provide adequate, cost-effective, and accessible *health*
care, fundamental *reform* of the nation's *health* *care* system must be
undertaken. Author-abstract.
MJ *AMBULATORY-CARE-FACILITIES.* *HEALTH-SERVICES-ACCESSIBILITY.*
SCHOOL-HEALTH-SERVICES.
MN CHILD. HUMAN. ORGANIZATIONAL-INNOVATION.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0097-9805. OUN.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930408.

11

AN 93183028. 93061.
AU Bednar-B.
TI The challenge of *health* *care* *reform.*
SO ANNA-J. 1992 Dec. 19(6). P 517.
JT ANNA JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-EXPENDITURES.*
INSURANCE-HEALTH.
MN *DELIVERY-OF-HEALTH-CARE:* trends (td). HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 8750-0779. 61F.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

12

AN 93179650. 93061.
 AU Finn-S-C. Gallagher-A. Blumer-P.
 TI *Health* *care* *reform--making* nutrition part of the package.
 SO J-Am-Diet-Assoc. 1993 Mar. 93(3). P 337.
 JT JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* legislation-and-jurisprudence (lj).
 NUTRITION.
 MN DIETETICS. *HEALTH-CARE-COSTS.* HUMAN. LOBBYING. SOCIETIES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1993.
 IS 0002-8223. H6F.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9306.
 ND ENTRY DATE: 930401.

13

AN 93177163. 93061.
 AU Florio-J.
 TI The need for *health* *care* *reform.*
 SO *Trends-Health-Care-Law-Ethics.* 1992 Spring-Summer. 7(3-4). P 7-8.
 JT TRENDS IN *HEALTH* *CARE,* LAW AND ETHICS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-POLICY.* *STATE-HEALTH-PLANS:* standards (st).
 MN *HEALTH-PRIORITIES.* HUMAN. NEW-JERSEY. PILOT-PROJECTS.
 STATE-HEALTH-PLANS: organization-and-administration (og).
 UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 1062-5364. BG3.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9306.
 ND ENTRY DATE: 930330.

14

AN 93175723. 93054.
 AU Cassetta-R-A.
 TI Symposium says *health* *care* *reform* must include mental *health* *care.*
 SO Am-Nurse. 1993 Feb. 25(2). P 12.
 JT AMERICAN NURSE.
 PT MEETING-REPORT (MET).
 LG English (EN).
 MJ *HEALTH-POLICY.* *MENTAL-HEALTH.*
 MN HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1993.

IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930325.

15

AN 93173015. 93054.
AU Schneider-P-J.
TI Nutrition support and *health* *care* *reform--the* work to be done
`comment:.
CM Comment on: Nutr Clin Pract 1992 Oct;7(5):246-51.
SO Nutr-Clin-Pract. 1992 Oct. 7(5). P 252-3.
JT NUTRITION IN CLINICAL PRACTICE.
PT COMMENT (COM). JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-OCCUPATIONS.*
NUTRITION.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0884-5336. NCP.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930325.

16

AN 93171855. 93054.
AU Schild-F.
TI *Health* *care* *reform.*
SO J-Fla-Med-Assoc. 1993 Jan. 80(1). P 7-8.
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-POLICY.* LEGISLATION.
MN FLORIDA. *HEALTH-CARE-COSTS.* *HEALTH-PROMOTION.*
HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *INSURANCE-HEALTH.*
UNITED-STATES.
YR 1993.
IS 0015-4148. I53.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930319.

17

AN 93171751. 93054.
AU Mitchell-W-H.
TI Clinton's administration proposal for some aspects of *health* *care*
reform `letter:.
SO J-Ky-Med-Assoc. 1993 Feb. 91(2). P 77.

JT JOURNAL OF THE KENTUCKY MEDICAL ASSOCIATION.
 PT LETTER (LET).
 LG English (EN).
 MJ *HEALTH-BENEFIT-PLANS-EMPLOYEE:* legislation-and-jurisprudence (lj).
 HEALTH-CARE-COSTS: legislation-and-jurisprudence (lj).
 MN COST-CONTROL: legislation-and-jurisprudence (lj). HUMAN.
 UNITED-STATES.
 YR 1993.
 IS 0023-0294. IV8.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930324.

18

AN 93166107. 93053.
 AU Moccia-P.
 TI Qui bono? Nursing education in the context of nursing's agenda for
 health *care* *reform*.
 SO Sch-Inq-Nurs-Pract. 1992 Fall-Winter. 6(3). P 229-33.
 JT SCHOLARLY INQUIRY FOR NURSING PRACTICE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Stevens' question "Who Gets *Care?*" is in the tradition of those
 arguing for increased access and a more equitable distribution of
 society's benefits. As such, it provides a framework for nursing
 scholarship concerned with social as contrasted with individual
 interventions. Nursing's Agenda for *Health* *Care* *Reform* advances the
 argument still further by questioning the ideology reinforced by the
 current system, and offering an alternative system, alternative
 services and agents. In so doing, the proposed agenda questions the
 dominant ideology and is, therefore, more accurately a radical
 departure from the status quo than a *reform.* While there are some
 implicit assumptions of both *reform* and radical change embedded
 within the work of those addressing a "curriculum revolution," the
 discussion would benefit from explicit expositions of both the social
 construction and social function of higher education.
 Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). EDUCATION-NURSING:
 standards (st). *HEALTH-POLICY*.
 MN EDUCATION-NURSING: trends (td). FORECASTING. HUMAN.
 UNITED-STATES.
 SB Nursing Journals (N).
 YR 1992.
 IS 0889-7182. SIN.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930317.

19

AN 93166105. 93053.

AU Joel-L-A.
 TI Nursing's proposal for *health* *care* *reform*.
 SO Sch-Inq-Nurs-Pract. 1992 Fall-Winter. 6(3). P 221-3.
 JT SCHOLARLY INQUIRY FOR NURSING PRACTICE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ AMERICAN-NURSES-ASSOCIATION. *HEALTH-POLICY*
 HEALTH-SERVICES-ACCESSIBILITY: standards (st).
 MN HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 YR 1992.
 IS 0889-7182. SIN.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930317.

20

AN 93166104. 93053.
 AU Davis-C-K.
 TI Who will pay? The economic realities of *health* *care* *reform*.
 SO Sch-Inq-Nurs-Pract. 1992 Fall-Winter. 6(3). P 217-9.
 JT SCHOLARLY INQUIRY FOR NURSING PRACTICE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ECONOMICS-NURSING. *HEALTH-CARE-RATIONING:* economics (ec).
 HEALTH-SERVICES-ACCESSIBILITY: economics (ec).
 MN COST-BENEFIT-ANALYSIS. HUMAN.
 SB Nursing Journals (N).
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 AU Jacott-W-E.
 TI National *health* *care* *reform* tops AMA agenda `interview:.
 SO Minn-Med. 1993 Feb. 76(2). P 9-11.
 JT MINNESOTA MEDICINE.
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 LG English (EN).
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AN 93164979. 93053.
AU Burke-E-C.
TI House of medicine must unite to shape *health* *care* *reform* `editorial:.
SO Minn-Med. 1993 Feb. 76(2). P 5.
JT MINNESOTA MEDICINE.
PT EDITORIAL (EDI).
LG English (EN).
MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES:
legislation-and-jurisprudence (lj). PHYSICIANS-ROLE.
MN COST-CONTROL: legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN.
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AN 93164972. 93053.
AU Elliott-B-A.
IN Department of Behavioral Sciences, University of Minnesota-Duluth
School of Medicine.
TI State 'laboratories' test *health* *care* *reform* solutions.
SO Minn-Med. 1993 Feb. 76(2). P 14-21.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Widely recognized by the states as a pressing policy issue, *health*
care *reform* appears to have moved up on the national policy agenda as
well. President Clinton has promised to address the issue during his
first 100 days in office. Previously, however, the federal
government has been deadlocked on *health* *care* *reform,* leaving the
states to become the laboratories for developing and testing proposed
solutions to our *health* *care* crisis. By passing MinnesotaCare in
last year's legislative session, Minnesota joined the growing number
of states attempting to provide access to affordable, quality *health*
care to their citizens. Author-abstract.
MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
QUALITY-ASSURANCE-HEALTH-CARE: legislation-and-jurisprudence (lj).

STATE-HEALTH-PLANS: legislation-and-jurisprudence (lj).
 MN COST-CONTROL: legislation-and-jurisprudence (lj).
 HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN.
 QUALITY-ASSURANCE-HEALTH-CARE: economics (ec). *STATE-HEALTH-PLANS:*
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AN 93163501. 93053.
 AU Elliott-L-E.
 TI Present status and projected needs of the educational facilities in
 optometry.
 SO J-Am-Optom-Assoc. 1992 Dec. 63(12). P 861-4.
 JT JOURNAL OF THE AMERICAN OPTOMETRIC ASSOCIATION.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB Optometry is affected by political, social and economic forces.
 Optometric leaders must understand that the issues of *health* *care*
 reform, education *reform* and economic *reform* can only be met through
 cooperation of all professionals, educational associations, as well
 as individual institutions. With good management, innovative use of
 available funds, and development of personnel, optometry can overcome
 contracted revenues and prosper through this decade. However, there
 is no doubt that educational *reform* is at the doorstep of the *health*
 care professions. Optometry must strive to face its challenges now
 and into the remaining years of this decade. Author-abstract. 0
 Refs.
 MJ OPTOMETRY: education (ed), trends (td).
 MN FINANCIAL-MANAGEMENT. HUMAN. PROFESSIONAL-PRACTICE.
 RESEARCH-SUPPORT. TRAINING-SUPPORT. UNITED-STATES.
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 CP UNITED-STATES (Z1.107.567.875).
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AN 93158231. 93052.
 AU Ander-K.
 TI WSNA *Health* *Care* *Reform* Task Force: NDA and *health* *care* *reform* have
 common ground.
 SO Wash-Nurse. 1993 Jan-Feb. 23(1). P 13.
 JT WASHINGTON NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-POLICY.* RIGHT-TO-DIE: legislation-and-jurisprudence (lj).

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MN HUMAN. WASHINGTON.
SB Nursing Journals (N).
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AN 93157034. 93052.
TI Nursing's agenda for *health* *care* *reform:* what do Americans believe about nursing?
SO Ohio-Nurses-Rev. 1993 Jan-Feb. 68(1). P 1.
JT OHIO NURSES REVIEW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* NURSING. SOCIAL-PERCEPTION.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
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AN 93150299. 93051.
AU Betts-V-T.
TI American Nurses Association calls Clinton victory a mandate for *health* *care* *reform* `interview:.
SO S-D-Nurse. 1992 Dec. 34(4). P 13.
JT SOUTH DAKOTA NURSE.
PT INTERVIEW (INT).
LG English (EN).
MJ *HEALTH-POLICY.* POLITICS.
MN AMERICAN-NURSES-ASSOCIATION. HUMAN. UNITED-STATES.
SB Nursing Journals (N).
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AN 93149492. 93051.
AU Ryan-W-E.

TI *Health* *care* *reform* in New Jersey.
 SO N-J-Med. 1992 Dec. 89(12). P 909.
 JT NEW JERSEY MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE.*
 MN HUMAN. NEW-JERSEY.
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AN 93148952. 93051.
 AU Daube-J-R.
 TI *Health* *care* *reform:* a voice for Minnesota physicians `interview:.
 SO Minn-Med. 1993 Jan. 76(1). P 7-9.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
 PHYSICIAN-PATIENT-RELATIONS. PHYSICIANS-ROLE.
 MN COST-CONTROL: legislation-and-jurisprudence (lj). HUMAN.
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 ND ENTRY DATE: 930304.

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AN 93148558. 93051.
 AU Hinds-M.
 TI Nurses model of *health* *care* *reform* `editorial:.
 SO Kans-Nurse. 1992 Nov-Dec. 67(12). P 12.
 JT KANSAS NURSE.
 PT EDITORIAL (EDI).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE.*
 MN HUMAN. KANSAS. SOCIETIES-NURSING. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1992.
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 CP UNITED-STATES (Z1.107.567.875).
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AN 93148431. 93051.
 AU Valdez-R-B. Morgenstern-H. Brown-R. Wyn-R. Wang-C. Cumberland-W.
 IN Department of *Health* Services, UCLA School of Public *Health*
 90024-1772.
 TI Insuring Latinos against the costs of illness.
 SO JAMA. 1993 Feb 17. 269(7). P 889-94.
 JT JAMA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB OBJECTIVE--To examine the determinants of *health* insurance coverage
 for Latinos in the United States and how different targeted
 strategies for *health* *care* *reform* differentially affect the country's
 major ethnic groups, focusing on the implications for the Latino
 population. DESIGN--Data from the 1980 and 1990 Current Population
 Surveys were used to compare the insurance status of nonelderly (< 65
 years) Latinos with the Anglo (non-Hispanic white), black, and Asian
 and other populations by estimating the attributable fraction for
 selected covariates. The effects of *health* *care* *reform* strategies on
 the coverage of the major ethnic groups were simulated from these
 data. MAIN OUTCOME MEASURES--Percentage uninsured, percentage
 insured by Medicaid, and attributable fraction for covariates.
 RESULTS--Latinos have the worst *health* insurance coverage of any
 ethnic group in the country. Approximately 39% of Latinos are
 uninsured compared with 13.8% for the Anglo and 24% for the black
 population. Providing coverage to all the poor could reduce the
 uninsured rate for Anglos by about 23%, whereas the reduction among
 Latinos could be about 37% and among blacks about 42%. Similar
 reductions could be achieved by covering all workers and their minor
 dependents. Regardless of the approach to *reform,* however, Latinos
 would remain with high absolute rates of uninsured.
 CONCLUSIONS--Differences in Medicaid eligibility, labor force
 characteristics, and family composition between Latinos and other
 ethnic groups suggest that policy initiatives may affect Latinos
 differently. Targeted strategies, such as employer mandates,
 "pay-or-play" programs, or Medicaid expansions, can improve coverage,
 but many Latinos could still remain uninsured. Author-abstract.
 MJ HISPANIC-AMERICANS: statistics-and-numerical-data (sn).
 INSURANCE-HEALTH: statistics-and-numerical-data (sn).
 MEDICALLY-UNINSURED: statistics-and-numerical-data (sn).
 MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL.
 HEALTH-BENEFIT-PLANS-EMPLOYEE: statistics-and-numerical-data (sn).
 HEALTH-POLICY. HUMAN. INFANT. MIDDLE-AGE. MODELS-STATISTICAL.
 SUPPORT-NON-U-S-GOVT. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
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 YR 1993.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
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AN 93147774. 93051.
AU Clancy-C. Gold-M. Wall-E.
IN Division of Primary *Care,* Agency for *Health* *Care* Policy and Research,
Rockville, MD.
TI Primary *care* and *health* *care* *reform:* the next 100 days.
SO J-Fam-Pract. 1993 Feb. 36(2). P 233-5.
JT JOURNAL OF FAMILY PRACTICE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
HEALTH-POLICY. *PRIMARY-HEALTH-CARE.*
MN *HEALTH-SERVICES-RESEARCH.* HUMAN. INTERNSHIP-AND-RESIDENCY.
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1993.
IS 0094-3509. I4L.
CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 930303.

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AN 93146751. 93051.
AU Kemper-V. Novak-V.
IN Common Cause Magazine, Washington, DC 20036.
TI What's blocking *health* *care* *reform?*SO *Int-J-Health-Serv.* 1993. 23(1). P 69-79.
JT INTERNATIONAL JOURNAL OF *HEALTH* SERVICES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-POLICY.*
POLITICS.
MN AMERICAN-MEDICAL-ASSOCIATION. *ATTITUDE-TO-HEALTH.*
CONFLICT-OF-INTEREST. *DELIVERY-OF-HEALTH-CARE:* economics (ec),
organization-and-administration (og). FORECASTING. HUMAN.
LOBBYING. UNITED-STATES.
SB Priority Journals (M).
YR 1993.
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CP UNITED-STATES (Z1.107.567.875).
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34

AN 93146534. 93051.
AU Santiago-J-M.
IN University of Arizona College of Medicine, Tucson 85724.
TI The fate of mental *health* services in *health* *care* *reform:* II.
Realistic solutions.

SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1095-9.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB In the second part of a two-part paper, the three major proposals for U.S. *health* *care* *reform--the* government-sponsored model, the employment-based model, and the market *reform* model--are reviewed. Barriers to their success include the current economic crisis, the lack of a clear consensus, and the high costs of the proposals. Most proposals limit the extent of psychiatric coverage; some exclude such coverage from minimum benefit packages, an area of concern for clinicians. The author concludes that any substantial *health* *care* *reform* is unlikely in the near future. A thoughtful, realistic, and yet vigorous strategic plan is needed now to forestall the possible exclusion of significant mental *health* coverage. The basic elements of such a plan are reviewed. Author-abstract. 44 Refs.
 MJ *HEALTH-POLICY:* economics (ec). *HEALTH-SERVICES-ACCESSIBILITY:* economics (ec). MEDICALLY-UNINSURED. *MENTAL-HEALTH-SERVICES:* economics (ec).
 MN COST-CONTROL: trends (td). FORECASTING. *HEALTH-CARE-RATIONING:* economics (ec). HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). UNITED-STATES.
 SB Priority Journals (M).
 YR 1992.
 IS 0022-1597. GCJ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930226.

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AN 93146533. 93051.
 AU Santiago-J-M.
 IN University of Arizona College of Medicine, Tucson 85724.
 TI The fate of mental *health* services in *health* *care* *reform:* I. A system in crisis.
 SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1091-4.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB The U.S. *health* *care* system is in the midst of a severe crisis. More than 50 million Americans are uninsured or underinsured. Medicare and Medicaid are not adequately serving populations in need. Analyses and *reform* proposals are often based on biased interpretations of data, resulting in confusion and heated debate. To avoid jeopardizing psychiatric *care* in a national *health* *care* *reform* movement, we must understand the causes of the national crisis. In the first part of a two-part paper, the author describes factors such as demographic trends and limitations in public *health* coverage that have contributed to the crisis. Outcomes of the current system include higher morbidity and mortality among the

uninsured and a high prevalence of untreated illness. The author reviews direct and indirect costs of *health* *care* and concludes that in attempts to solve the difficult equation of access, cost, and quality, mental *health* services are in serious jeopardy.

Author-abstract. 30 Refs.

MJ *HEALTH-POLICY:* economics (ec). *HEALTH-SERVICES-ACCESSIBILITY:* economics (ec). MEDICALLY-UNINSURED. *MENTAL-HEALTH-SERVICES:* economics (ec).

MN COST-CONTROL: trends (td). HUMAN. UNITED-STATES.

SB Priority Journals (M).

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AN 93137090. 93044.

AU Turner-S.

IN Fox, Bennett & Turner, Washington, DC 20006.

TI The impact of *health* *care* *reform* on reimbursement for investigational therapy.

SO Cancer-Invest. 1993. 11(1). P 68-9.

JT CANCER INVESTIGATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ CLINICAL-TRIALS: economics (ec). DRUGS-INVESTIGATIONAL: therapeutic-use (tu). *INSURANCE-HEALTH-REIMBURSEMENT.*

MN CLINICAL-TRIALS: standards (st). *HEALTH-CARE-RATIONING.* HUMAN. *INSURANCE-HEALTH-REIMBURSEMENT:* legislation-and-jurisprudence (lj). UNITED-STATES.

RN 0 -- Drugs-Investigational.

SB Priority Journals (M). Cancer Journals (X).

YR 1993.

IS 0735-7907. CAI.

CP UNITED-STATES (Z1.107.567.875).

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ND ENTRY DATE: 930224.

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AN 93135390. 93043.

AU Cassetta-R-A.

TI Coalitions bring quality to *health* *care* *reform.*

SO Am-Nurse. 1993 Jan. 25(1). P 7.

JT AMERICAN NURSE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE.* *QUALITY-OF-HEALTH-CARE.*

MN AMERICAN-NURSES-ASSOCIATION. HUMAN. SOCIETIES-NURSING. UNITED-STATES.

SB Nursing Journals (N).
LI N.
YR 1993.
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CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930216.

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AN 93133440. 93043.
AU Fagin-C-M.
TI The myth of Superdoc blocks *health* *care* *reform.*
SO *Nurs-Health-Care.* 1992 Dec. 13(10). P 542-3.
JT NURSING AND *HEALTH* *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *ATTITUDE-OF-HEALTH-PERSONNEL.* *DELIVERY-OF-HEALTH-CARE:* standards
(st). NURSES: psychology (px). PHYSICIANS: psychology (px).
MN CLINICAL-COMPETENCE. HUMAN. PROBLEM-SOLVING.
SB Nursing Journals (N).
LI N.
YR 1992.
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CP UNITED-STATES (Z1.107.567.875).
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AN 93129459. 93043.
AU Segnan-N. Battista-R-N. Rosso-S. Ponti-A. Senore-C. Aimar-D.
IN Area di Epidemiologia, Unita Sanitaria Locale 1, Torino, Italy.
TI Preventive practices of general practitioners in Torino, Italy.
SO Am-J-Prev-Med. 1992 Nov-Dec. 8(6). P 333-8.
JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB *Health* *care* *reforms* introduced in Italy in the late 1970s triggered
a profound rethinking of the role of general practitioners (GPs) in
prevention. We interviewed 209 GPs registered in the Torino area to
delineate their beliefs, attitudes, and practice patterns in relation
to prevention. We examined an array of primary and secondary
preventive interventions, including influenza vaccination of the
elderly; counseling activities related to smoking, alcohol
consumption, accidents, contraception, safety helmets, and seat
belts; and early detection of hypertension and lung, cervical, and
breast cancers. Improvement can still be made in the full
implementation of preventive practices. We examine features of the
organization of medical practices in Italy that impede the
integration of preventive interventions in primary *care.*
Author-abstract.

MJ KNOWLEDGE-ATTITUDES-PRACTICE. PHYSICIANS-FAMILY.
 PREVENTIVE-MEDICINE: methods (mt).
 MN ADULT. AGED. ALCOHOLISM: prevention-and-control (pc). FEMALE.
 GENITAL-NEOPLASMS-FEMALE: prevention-and-control (pc). HUMAN.
 ITALY. MALE. MIDDLE-AGE. PATIENT-EDUCATION. PREVENTIVE-MEDICINE:
 organization-and-administration (og). SMOKING:
 prevention-and-control (pc), psychology (px). SUPPORT-NON-U-S-GOVT.
 SB Priority Journals (M).
 YR 1992.
 IS 0749-3797. APL.
 CP UNITED-STATES (Z1.107.567.875).
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AN 93125213. 93042.
 TI *Health* *care* *reform* will likely come in exchange for system *reform.*
 SO Mich-Med. 1992 Dec. 91(12). P 34-6.
 JT MICHIGAN MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og), trends
 (td).
 MN FORECASTING. HUMAN. UNITED-STATES.
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 CP UNITED-STATES (Z1.107.567.875).
 IM 9304.
 ND ENTRY DATE: 930205.

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AN 93124960. 93042.
 AU Mascher-P-C.
 TI *Health* *care* *reform--Maine* and the nation. Maine moves
 forward--slowly.
 SO Maine-Nurse. 1992 Fall. 79(4). P 5.
 JT MAINE NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE.* *HEALTH-SERVICES:*
 organization-and-administration (og).
 MN AGED. HUMAN. MAINE. MEDICARE. NURSE-PRACTITIONERS.
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 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 0025-0767. LFH.
 CP UNITED-STATES (Z1.107.567.875).
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AN 93117971. 93041.
AU Kelly-C. Gemeinhardt-E.
TI Public attitudes on *health* *care* *reform*.
SO Stat-Bull-Metrop-Insur-Co. 1992 Oct-Dec. 73(4). P 2-10.
JT STATISTICAL BULLETIN / METROPOLITAN INSURANCE COMPANIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Numerous polls and surveys have been conducted in recent months to determine public attitudes toward *reform* of the *health* *care* system. These polls, commissioned by independent foundations as well as the *health* insurance industry, have been employed to measure public opinion on the nation's *health* *care* system and the variety of *reform* proposals currently being examined. The major findings show that the American public is still genuinely confused about the *health* *care* issue and remains divided on how to solve the *health* *care* crisis facing the United States. Author-abstract.
MJ *ATTITUDE-TO-HEALTH.* *DELIVERY-OF-HEALTH-CARE.* POLITICS. PUBLIC-OPINION.
MN CONSUMER-PARTICIPATION. CONSUMER-SATISFACTION. *HEALTH-SERVICES-ACCESSIBILITY.* HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
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CP UNITED-STATES (Z1.107.567.875).
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AN 93117969. 93041.
AU Kamen-H-P.
TI The debate over *health* *care* *reform*.
SO Stat-Bull-Metrop-Insur-Co. 1992 Oct-Dec. 73(4). P 11.
JT STATISTICAL BULLETIN / METROPOLITAN INSURANCE COMPANIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* legislation-and-jurisprudence (lj). *HEALTH-POLICY.*
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). *HEALTH-SERVICES-ACCESSIBILITY.* HUMAN. *NATIONAL-HEALTH-PROGRAMS:* economics (ec), legislation-and-jurisprudence (lj). UNITED-STATES.
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CP UNITED-STATES (Z1.107.567.875).
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AN 93116313. 93041.
AU Green-P. Keep-N.
TI History in the making: the development of Nursing's Agenda for *Health*
Care *Reform.*
SO J-Emerg-Nurs. 1992 Oct. 18(5). P 443-6.
JT JOURNAL OF EMERGENCY NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ AMERICAN-NURSES-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE:* standards
(st). ORGANIZATIONAL-POLICY.
MN FOCUS-GROUPS. HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0099-1767. KRU.
CP UNITED-STATES (Z1.107.567.875).
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45

AN 93114989. 93041.
AU Eversmann-W Jr.
TI What sort of *health* *care* *reform?*SO Iowa-Med. 1992 Oct. 82(10). P 397.
JT IOWA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). PATIENT-ADVOCACY.
PHYSICIANS-ROLE. POWER-PSYCHOLOGY.
MN HUMAN. UNITED-STATES.
YR 1992.
IS 0746-8709. GWQ.
CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 930201.

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AN 93110889. 93035.
AU Koons-D-M.
TI An historic opportunity for *health* *care* *reform* `letter:.
SO Wis-Med-J. 1992 Jun. 91(6). P 272.
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AU Meyer-C.
TI Reading their lips. On *health* *care* *reform,* workplace issues, and many other questions of interest to nurses, George Bush and Bill Clinton are speaking different languages.
SO Am-J-Nurs. 1992 Oct. 92(10). P 61-2.
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TI The *health* *care* *reform* debate: competition vs. government control.
SO Nurs-Econ. 1992 Sep-Oct. 10(5). P 360-1.
JT NURSING ECONOMICS.
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AN 93101174. 93034.
AU Kronick-R. Goodman-D-C. Wennberg-J. Wagner-E.
IN Department of Community and Family Medicine, University of California-San Diego, La Jolla 92093.
TI The marketplace in *health* *care* *reform.* The demographic limitations of managed competition.
SO N-Engl-J-Med. 1993 Jan 14. 328(2). P 148-52.

JT NEW ENGLAND JOURNAL OF MEDICINE.

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AB BACKGROUND. The theory of managed competition holds that the quality and economy of *health* *care* delivery will improve if independent provider groups compete for consumers. In sparsely populated areas where relatively few providers are required, however, it is not feasible to divide the provider community into competing groups. We examined the demographic features of *health* markets in the United States to see what proportion of the population lives in areas that might successfully support managed competition. METHODS. The ratios of physicians to enrollees in large staff-model *health* maintenance organizations were determined as an indicator of the staffing needs of an efficient *health* plan. These ratios were used to estimate the populations necessary to support *health* organizations with various ranges of specialty services. Metropolitan areas with populations large enough to support managed competition were identified. RESULTS. We estimated that a *health* *care* services market with a population of 1.2 million could support three fully independent plans. A population of 360,000 could support three plans that independently provided most acute *care* hospital services, but the plans would need to share hospital facilities and contract for tertiary services. A population of 180,000 could support three plans that provided primary *care* and many basic specialty services but that shared inpatient cardiology and urology services. *Health* markets with populations greater than 180,000 would include 71 percent of the U.S. population; those with populations greater than 360,000, 63 percent; and those with populations greater than 1.2 million, 42 percent. CONCLUSIONS. *Reform* of the U.S. *health* *care* system through expansion of managed competition is feasible in medium-sized or large metropolitan areas. Smaller metropolitan areas and rural areas would require alternative forms of organization and regulation of *health* *care* providers in order to improve quality and economy. Author-abstract.

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HEALTH-POLICY: economics (ec). *HEALTH-SERVICES-NEEDS-AND-DEMAND:*
statistics-and-numerical-data (sn). *MANAGED-CARE-PROGRAMS:*
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(ec), utilization (ut).ECONOMIC-COMPETITION:
organization-and-administration (og).
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HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn).
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AU Stanley-S.
TI Nursing's agenda for *health* *care* *reform:* a call to action for nurses and nursing.
SO *J-Child-Adolesc-Psychiatr-Ment-Health-Nurs.* 1992 Oct-Dec. 5(4). P 37.
JT JOURNAL OF CHILD AND ADOLESCENT PSYCHIATRIC AND MENTAL *HEALTH* NURSING.
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IN Harvard University.
TI Momentum toward *health* *care* *reform* in the U.S. Senate.
SO *J-Health-Polit-Policy-Law.* 1992 Fall. 17(3). P 553-73.
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TI Without mandate to president, *health* *care* *reform* left to Congress.
SO Iowa-Med. 1992 Dec. 82(12). P 488-9.
JT IOWA MEDICINE.
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TI *Health* *care* *reform:* what will happen under the Clinton
administration?
SO Iowa-Med. 1992 Dec. 82(12). P 481-7.
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PT JOURNAL-ARTICLE (ART).
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AU Warden-W-S.
TI *Health* *care* *reform.* As efficient as possible.
SO J-Fla-Med-Assoc. 1992 Oct. 79(10). P 679-81.
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
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MN COST-CONTROL. FLORIDA. HUMAN. *INSURANCE-HEALTH:* economics (ec).
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AN 93087728. 93032.

AU Raffel-M-W. Raffel-N-K.
 IN College of *Health* and Human Development, Pennsylvania State University, University Park 16802.
 TI Czechoslovakia's changing *health* *care* system.
 SO *Public-Health-Rep.* 1992 Nov-Dec. 107(6). P 636-43.
 JT PUBLIC *HEALTH* REPORTS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Before World War II, Czechoslovakia was among the most developed European countries with an excellent *health* *care* system. After the Communist coup d'etat in 1948, the country was forced to adapt its existing *health* *care* system to the Soviet model. It was planned and managed by the government, financed by general tax money, operated in a highly centralized, bureaucratic fashion, and provided service at no direct charge at the time of service. In recent years, the *health* *care* system had been deteriorating as the *health* of the people had also been declining. Life expectancy, infant mortality rates, and diseases of the circulatory system are higher than in Western European countries. In 1989, political changes occurred in Czechoslovakia that made *health* *care* *reform* possible. Now *health* services are being decentralized, and the ownership of hospitals is expected to be transferred to communities, municipalities, churches, charitable groups, or private entities. Almost all *health* leaders, including hospital directors and hospital department heads, have been replaced. Physicians will be paid according to the type and amount of work performed. Perhaps the most important *reform* is the establishment of an independent General *Health* *Care* Insurance Office financed directly by compulsory contributions from workers, employers, and government that will be able to negotiate with hospitals and physicians to determine payment for services.
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 AU Blendon-R-J. Altman-D-E. Benson-J-M. Taylor-H. James-M. Smith-M.
 IN Department of *Health* Policy and Management, Harvard School of Public
 Health, Boston, Mass 02115.
 TI The implications of the 1992 Presidential election for *health* *care*
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 SO JAMA. 1992 Dec 16. 268(23). P 3371-5.
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AN 93075852. 93031.
 AU Foster-S-D.
 TI Professional wake-up call: *health* *care* *reform* legislation
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 SO Nurse-Anesth. 1992 Sep. 3(3). P 97-8.
 JT NURSE ANESTHESIA.
 PT EDITORIAL (EDI).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). NURSE-ANESTHETISTS.
 MN *DELIVERY-OF-HEALTH-CARE:* economics (ec),
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 SB Nursing Journals (N).
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AN 93074226. 93021.
 AU Lurie-N. Orbovich-C-B. Klein-J-D. Miles-S-H. Oberg-C-N.
 Dowd-B-E. Finch-M-D. Quam-L.
 IN Department of Medicine, Hennepin County Medical Center, Minneapolis,
 MN 55415.
 TI From data to policy. to politics. The Minnesotans *health* *care* plan

for universal access to *care.*
 SO Arch-Intern-Med. 1992 Nov. 152(11). P 2222-8.
 JT ARCHIVES OF INTERNAL MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Calls for major *reform* of the *health* *care* delivery system have been sounded at both the state and federal level. However, given the lack of consensus on *health* *care* *reform* at a federal level, more than half of the states are developing initiatives for universal access to *care.* In 1989, the Minnesota legislature created the *Health* *Care* Access Commission to develop a blueprint for universal access in Minnesota. To assist this effort, we studied the extent and nature of uninsurance and underinsurance within the state. In this article we report the findings of that study and discuss how the findings were first used to develop recommendations for universal access legislation. We then describe the fate of the legislation. Finally, we describe the veto and the creation of HealthRight, the recently enacted plan for *health* *care* *reform* bill in Minnesota. This plan simultaneously expands access to *care* and aims to contain *health* *care* costs. Author-abstract.
 MJ *HEALTH-SERVICES-ACCESSIBILITY:* legislation-and-jurisprudence (lj). POLITICS. *STATE-HEALTH-PLANS:* legislation-and-jurisprudence (lj).
 MN ADULT. COMPARATIVE-STUDY. FEMALE. *HEALTH-CARE-COSTS.* *HEALTH-POLICY.* HUMAN. *INSURANCE-HEALTH:* statistics-and-numerical-data (sn). MALE. MEDICALLY-UNINSURED: statistics-and-numerical-data (sn). MINNESOTA. SOCIOECONOMIC-FACTORS. UNITED-STATES.
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 AU Anderson-R-W.
 IN Division of Pharmacy, University of Texas M.D. Anderson Cancer Center, Houston.
 TI Harvey A. K. Whitney Lecture. Of perceived value.
 SO Am-J-Hosp-Pharm. 1992 Aug. 49(8). P 1919-24.
 JT AMERICAN JOURNAL OF HOSPITAL PHARMACY.
 PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Current issues in pharmacy are discussed and recommendations are made to help pharmacy demonstrate its value in *health* *care.* There is a need for pharmacy to actively demonstrate and communicate its value in *health* *care.* Educational requirements should reflect the values

of the profession. In the debate over the entry-level Pharm.D. degree, the profession must not lose sight of the principal goal of elevating the basic competencies of all pharmacists. Graduate-level education will continue to be valuable, but the degrees and programs should be modified to meet current and future needs. Residency training will become increasingly essential. A well-defined corps of pharmacy technicians is needed. The profession should strive to meet the needs of society rather than confining itself to traditional practice definitions. This will involve increased interaction with patients. Also, pharmacy directors must become more creative in allocating existing resources and building arguments for expansion. When patients recognize the value of pharmacy services, they will seek out and demand those services. Pharmacists must get involved in deliberations regarding *health-care* *reform.* They have a responsibility to promote preventive medicine and healthy life-styles. They should actively promote the rational use of all medications. Although tremendous progress has been made in advancing the concept of pharmaceutical *care,* the profession still has work to do in communicating its value to the public. Author-abstract.

MJ AWARDS-AND-PRIZES. EDUCATION-PHARMACY. PHARMACY.

MN EDUCATION-PHARMACY-GRADUATE. HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. INSTITUTIONAL-PRACTICE. INTERNSHIP-NONMEDICAL. PATIENT-EDUCATION. PHARMACEUTICAL-SERVICES. PHARMACISTS-AIDES: education (ed). PHARMACY: history (hi). PHARMACY-ADMINISTRATION. PORTRAITS. SOCIETIES-PHARMACEUTICAL. UNITED-STATES.

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AN 93071694. 93021.

AU Lingle-E-W. Zetzl-S-E.

IN University of South Carolina College of Pharmacy, Columbia.

TI *Health* *care* *reform:* to be or not to be? Part 1: The motivating forces.

SO Am-Pharm. 1992 Sep. NS32(9). P 28-31.

JT AMERICAN PHARMACY.

PT JOURNAL-ARTICLE (ART).

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AN 93071667. 93021.
AU Lingle-E-W. Zetzl-S-E.
IN University of South Carolina College of Pharmacy, Columbia.
TI *Health* *care* *reform:* to be or not to be? Part 2: Where are we heading?
SO Am-Pharm. 1992 Oct. NS32(10). P 26-31.
JT AMERICAN PHARMACY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The call for a new national *health* *care* system reflects the inability of the current system to provide access for all, control costs, and maintain quality. In Part 1 of this two-part series (September American Pharmacy, p. 28), the authors discussed the forces driving our current system. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). *INSURANCE-HEALTH:* trends (td). PHARMACEUTICAL-SERVICES: economics (ec).
MN COST-CONTROL. *DELIVERY-OF-HEALTH-CARE:* economics (ec). HUMAN. *INSURANCE-HEALTH:* economics (ec). PHARMACEUTICAL-SERVICES: trends (td). UNITED-STATES.
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AN 93070312. 93021.
AU Clever-L-H.
TI *Health* *care* *reform--another* view `editorial:.
SO West-J-Med. 1992 Nov. 157(5). P 584-5.
JT WESTERN JOURNAL OF MEDICINE.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.*
MN HUMAN. UNITED-STATES.
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AN 93070311. 93021.

AU Lee-P-R. Soffel-D. Luft-H-S.
 IN Institute for *Health* Policy Studies, University of California, School
 of Medicine, San Francisco 94109.
 TI Costs and coverage. Pressures toward *health* *care* *reform*.
 SO West-J-Med. 1992 Nov. 157(5). P 576-83.
 JT WESTERN JOURNAL OF MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Signs of discontent with the *health* *care* system are growing. Calls
 for *health* *care* *reform* are largely motivated by the continued
 increase in *health* *care* costs and the large number of people without
 adequate *health* insurance. For the past 20 years, *health* *care*
 spending has risen at rates higher than the gross national product.
 As many as 35 million people are without *health* insurance. As
 proposals for *health* *care* *reform* are developed, it is useful to
 understand the roots of the cost problem. Causes of spiraling *health*
 care costs include "market failure" in the *health* *care* market,
 expansion in technology, excessive administrative costs, unnecessary
 care and defensive medicine, increased patient complexity, excess
 capacity within the *health* *care* system, and low productivity.
 Attempts to control costs, by the federal government for the Medicare
 program and then by the private sector, have to date been mostly
 unsuccessful. New proposals for *health* *care* *reform* are
 proliferating, and important changes in the *health* *care* system are
 likely. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). *HEALTH-CARE-COSTS.*
 MN ECONOMIC-COMPETITION. HUMAN. MEDICALLY-UNINSURED. MEDICARE:
 economics (ec). PHYSICIANS: supply-and-distribution (sd).
 SUPPORT-NON-U-S-GOVT. TECHNOLOGY-MEDICAL: economics (ec).
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 SB Abridged Index Medicus Journals (A). Priority Journals (M).
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 AU Pursell-T-F.
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 antitrust fears?
 SO Minn-Med. 1992 Oct. 75(10). P 35-8.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ANTITRUST-LAWS. *HEALTH-SERVICES-ACCESSIBILITY:*
 legislation-and-jurisprudence (lj). MEDICALLY-UNINSURED:
 legislation-and-jurisprudence (lj).
 MN COST-CONTROL: legislation-and-jurisprudence (lj).

HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN. MINNESOTA.
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AU Hunt-K-N. Johannsen-M-A.
TI *Health* *care* *reform* and medical malpractice in Minnesota.
SO Minn-Med. 1992 Oct. 75(10). P 33-4.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-SERVICES-ACCESSIBILITY:* legislation-and-jurisprudence (lj).
LIABILITY-LEGAL. MALPRACTICE: legislation-and-jurisprudence (lj).
MEDICALLY-UNINSURED: legislation-and-jurisprudence (lj).
MN HUMAN. MINNESOTA.
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AN 93062558. 93021.
AU Priester-R.
IN Center for Biomedical Ethics, University of Minnesota.
TI Will Minnesota's *Health* *Care* *Reform* Act assure fair access?
SO Minn-Med. 1992 Oct. 75(10). P 17-21.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-SERVICES-ACCESSIBILITY:* legislation-and-jurisprudence (lj).
MEDICALLY-UNINSURED: legislation-and-jurisprudence (lj).
MN COST-CONTROL: legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN. MINNESOTA.
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AU Miles-S-H. Haugen-D. Lurie-N.
IN University of Minnesota Medical School.

TI Minnesota physicians and *health* *care* *reform.* After *'health* right'.
 SO Minn-Med. 1992 Oct. 75(10). P 13-6.
 JT MINNESOTA MEDICINE.
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 MN HUMAN. MINNESOTA. SUPPORT-NON-U-S-GOVT.
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AN 93062119. 93021.
 AU Kastner-T.
 TI Prospects for *health* *care* *reform* `editorial:.
 SO Ment-Retard. 1992 Oct. 30(5). P v-viii.
 JT MENTAL RETARDATION.
 PT EDITORIAL (EDI).
 LG English (EN).
 MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
 HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
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 MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj). POLITICS.
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 JT COLORADO MEDICINE.
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 JT MINNESOTA MEDICINE.
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 AB Minnesota's *health* *care* *reform* plan (by any name) is a cost-containment bill with provisions to provide *health* insurance for some uninsured people, to examine quality of *care,* to increase support for rural provider education and migration to rural practice, and to develop state and regional *health* planning procedures. It is an ambitious bill with very tight time frames, vague language, and heavy reliance on regional commissions and volunteer groups that are just now being established. Will it have an impact on rural *health* *care?*

Undoubtedly, it will. But somewhere between what the bill says and the desired outcome is a void that physicians can help fill with constructive work and criticism. If physicians do not take the lead, someone else will fill that void--nonphysician providers, legislators, bureaucrats, or consumers. Or the structure could implode, taking all of us with it. Author-abstract.

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IN Physician Payment Review Commission, Washington, DC 20037.
TI Realizing the potential of practice pattern profiling.
SO Inquiry. 1992 Fall. 29(3). P 287-97.
JT INQUIRY.
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LG English (EN).
AB In January 1992, the Physician Payment Review Commission held a
conference to learn about the appropriateness of present uses of
profiling of practice patterns, and to identify what will be required
to realize the full potential of this technique in the future. The
conference addressed the data needs of profiling, the development of
valid and relevant profiles, the impact of profiles on medical

practice, and controversies surrounding public access to profiling information and the uses to which profiling has been put. This paper, based in part on that conference, reviews the basic concepts that underlie profiling and describes the roles that profiling can play in quality improvement, assessment of provider performance, and utilization review. It uses case studies to illustrate the types of problems that have arisen in actual usage and discusses what will be required to resolve them. The final section describes the roles that profiling can play in achieving the goals of *health* *care* *reform,* and concludes with what is needed in data and infrastructure development to improve the quality and usefulness of profiling.

Author-abstract.

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 TI *Health-care* *reform:* the insurance industry's perspective `interview
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 SO Todays-OR-Nurse. 1992 Aug. 14(8). P 29-32.
 JT TODAYS OR NURSE.
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 HUMAN. INDUSTRY. UNITED-STATES.
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 SO Soc-Secur-Bull. 1992 Summer. 55(2). P 36-42.
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 LG English (EN).
 AB The Boards of Trustees for the two Social Security and the two
 Medicare Trust Funds recently released their annual reports to
 Congress detailing the operations of the trust funds during 1991 and
 their projected financial status for future years. Based on the
 Trustees' best estimates, the reports show: The Federal Old-Age and
 Survivors Insurance (OASI) Trust Fund will be able to pay benefits
 for about 50 years. Congress will eventually need to take action to
 assure the long-range financing of the program. The Federal
 Disability Insurance (DI) Trust Fund will be able to pay benefits for
 only about 5 years and is not adequately financed. As a result, the
 Board is required to make a separate report to the Congress on the
 unfavorable financial condition of this trust fund. The Board urges
 that prompt legislative action be taken to improve the financial
 integrity of the trust fund, after a review of the disability
 program. The Federal Hospital Insurance (HI) Trust Fund will be able
 to pay benefits for only about 10 years and is severely out of
 financial balance in the long-range. The Trustees urge the Congress
 to take additional actions designed to control HI program costs
 either through specific program legislation or as a part of enacting
 comprehensive *health* *care* *reform.* The Federal Supplementary Medical
 Insurance (SMI) Trust Fund is financed on a year-by-year basis and,
 on this limited basis, is adequately financed. The Trustees urge the
 Congress to take additional actions designed to control SMI costs

either through specific program legislation or as part of enacting more comprehensive *health* *care* *reform.* Author-abstract.

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SOCIAL-SECURITY: economics (ec).
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TI *Health* *care* *reform:* who's got the answer? `editorial:.
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 TI Nurse practitioners & reimbursement.
 SO *Nurs-Health-Care.* 1992 May. 13(5). P 236-41.
 JT NURSING AND *HEALTH* *CARE.*
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Nursing's Agenda for *Health* *Care* *Reform* (1991) embraces primary
 health *care* as the focus of a restructured *health* *care* system. As
 part of this reformed system, consumers would access the most
 cost-effective providers in community-based settings. Removal of
 financial and regulatory barriers that limit consumer access to
 providers, such as lack of direct reimbursement by Medicare for nurse
 practitioners, should be eliminated according to this plan. Senate
 bills S2103 and S2104 have been recently introduced to the U.S.
 Senate mandating reimbursement for services provided by nurse
 practitioners, clinical nurse specialists, nurse midwives, and
 physician assistants at 97% of physician payment. The aim of this
 global legislation is to eliminate the current piecemeal mechanisms
 for nurse practitioner reimbursement and remove financial
 disincentives. Case examples presented in this article illustrate
 how obstacles to reimbursement limit access to *care* for consumers.
 Quality of *care,* opportunities for autonomous practice, and control
 of nursing practice issues have been highlighted as well by the case
 format. It is intended that these cases would be useful to support
 changes in patterns of nurse practitioner reimbursement.
 Author-abstract.
 MJ NURSE-PRACTITIONERS: economics (ec). REIMBURSEMENT-MECHANISMS:
 economics (ec).
 MN AGED. AGED-80-AND-OVER. CASE-REPORT. FEMALE. HUMAN. MEDICAID.
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TI *Health* *care* *reform's* future: the road less traveled.
SO Wis-Med-J. 1992 Jul. 91(7). P 435-7.
JT WISCONSIN MEDICAL JOURNAL.
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TI *Health* *care* *reform* begins at home `editorial:.
SO Nurs-Econ. 1992 Jul-Aug. 10(4). P 248, 276.
JT NURSING ECONOMICS.
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LG English (EN).
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INSURANCE-HEALTH: economics (ec).
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AU Bowers-R.
TI Presidential candidates present their views on *health* *care* *reform.*
SO J-Tenn-Med-Assoc. 1992 Aug. 85(8). P 384.
JT JOURNAL OF THE TENNESSEE MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).

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 MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
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 TI Overview of *health* *care* *reform*.
 SO *J-Pediatr-Health-Care.* 1992 Jul-Aug. 6(4). P 221-3.
 JT JOURNAL OF PEDIATRIC *HEALTH* *CARE*.
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 AU Johnson-P-A. Baldwin-D.
 TI Nursing's agenda for *health* *care* *reform:* a critique `see comments:.
 CM Comment in: ABNF J 1992 Summer;3(3):57.
 SO ABNF-J. 1992 Summer. 3(3). P 63-6.
 JT ABNF JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This paper discusses the nature of the *health* *care* crisis with a
 focus on the issues of economics, the private insurance industry,
 race and ethics as they relate to Nursing's Agenda for *Health* *Care*
 Reform. Recommendations are made for assuring the entire population
 quality, equitable *health* *care.* Author-abstract.
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SB Nursing Journals (N).
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SO AORN-J. 1992 Aug. 56(2). P 208-9.
JT AORN JOURNAL.
PT NEWS (NEW).
LG English (EN).
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TI Mothers and children last: the Oregon Medicaid experiment.
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AB In 1989 and 1991, the Oregon legislature enacted a series of initiatives to extend *health* coverage to uninsured state residents. Among these initiatives is an act that seeks to extend a modified set of Medicaid benefits to state residents with family incomes below the federal poverty level. This act also reduces benefits the state is now required to provide to Medicaid-enrolled women of childbearing age and children. This Article explores the legal context in which the Oregon Medicaid experiment must be evaluated. It argues that by reducing the level of coverage to which tens of thousands of exceedingly poor, Medicaid-eligible women and children are entitled,

the experiment falls outside the scope of valid research that the United States Department of *Health* and Human Services may either sanction or fund. The Article also discusses the implications of the Oregon experiment, if approved, for the future direction of the Medicaid program in particular, and for *health* *care* *reform* for the poor, generally. Author-abstract. 131 Refs.

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AB The *health* insurance industry has experienced a pronounced six-year cycle of earnings for nearly three decades--three years of profits followed by three years of losses. This profitability cycle triggers a turbulent pricing cycle. After reviewing three schools of thought about the causes of the cycle, in this article we examine new evidence to determine the probable impact on the cycle of a private-public, universal coverage, national *health* plan. We find no evidence of a cycle in the pricing and use of *health* *care* services. Since 1985, the relationship between the overall economy and *health* insurance trends has weakened. We conclude that the root causes of the cycle are essentially internal to the insurance industry, and, therefore, national *health* *care* *reform* will have little impact on the underwriting cycle. Author-abstract.
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MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: complications (co).
HEALTH-POLICY: legislation-and-jurisprudence (lj). *HEALTH-PROMOTION.*
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LG English (EN).
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TI White paper on *health* *care* *reform.*
SO J-Am-Diet-Assoc. 1992 Jun. 92(6). P 749.
JT JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION.

PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB It is the position of The American Dietetic Association that provision of nutrition services be included in any *health* *care* *reform* legislation. The dietetics professional (qualified dietitian) should be identified as a qualified provider of reimbursable nutrition services. Author-abstract.
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IN University of Texas, Austin School of Nursing.
TI Restructuring the American *health* *care* system: an analysis of Nursing's Agenda for *Health* *Care* *Reform.*
SO Nurse-Pract. 1992 May. 17(5). P 65, 69-72, 75.
JT NURSE PRACTITIONER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Equal access to *health* *care* for all citizens is a hotly debated issue of the American *health* *care* system. Different plans for *reform* that would allow equal access to *health* *care* have been proposed, but few include nurses as key *health* *care* providers. To correct this oversight, a coalition of more than 60 national nursing and *health* *care* organizations has created Nursing's Agenda for *Health* *Care* *Reform,* a blueprint for restructuring the *health* *care* system. This article reviews the agenda within the framework of the ethical theory of distributive justice. Distributive justice allows for the allocation of *health* *care* resources in a manner that is fair but not necessarily equal for all. The agenda addresses the basic level of *health* *care* needed by all Americans and supports the provision of primary *care* by nurse practitioners. Nurse practitioners need to be aware of plans to *reform* the *health* *care* system and should be supportive of those plans that enhance nurse participation in the *health* *care* system. Nursing's Agenda for *Health* *Care* *Reform* is a plan that encourages the *health* *care* consumer's participation and promotes nursing *care* as the link between the consumer and the *health* *care* system. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st).
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MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). *HEALTH-CARE-RATIONING.*
HEALTH-RESOURCES. *HEALTH-SERVICES-ACCESSIBILITY:* economics (ec).
HUMAN. *INSURANCE-HEALTH:* standards (st). NURSE-PRACTITIONERS.
PATIENT-ADVOCACY. ROLE. SOCIAL-JUSTICE. UNITED-STATES.
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TI HCMR interview: Carolyn C. Roberts `interview by Barbara P. McCool:.
SO *Health-Care-Manage-Rev.* 1992 Spring. 17(2). P 77-82.
JT *HEALTH* *CARE* MANAGEMENT REVIEW.
PT INTERVIEW (INT).
LG English (EN).
AB Carolyn C. Roberts--researcher, *health* *care* administrator, American
Hospital Association board member--is a role model for women *health*
care executives. As president of Copley Hospital in Morrisville,
Vermont, Carolyn has provided national leadership on *health* *care*
reform and the management of small and rural hospitals. Her creative
and positive approach to life coupled with her sensitivity to serving
patients and the community with quality service provides inspiration
to many *health* administrators, physicians, and community leaders.
The following interview is a tribute to a dear friend and a great
lady. Author-abstract.
MJ *HEALTH-POLICY.* HOSPITAL-ADMINISTRATORS. LEADERSHIP.
MN AMERICAN-HOSPITAL-ASSOCIATION. FORECASTING.
HEALTH-SERVICES-NEEDS-AND-DEMAND. *HEALTH-SERVICES-RESEARCH.*
HOSPITALS-RURAL: organization-and-administration (og), trends (td).
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SB Priority Journals (M).
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TI *Health* *care* *reform:* how will it effect nursing? Nursing education.
SO Pa-Nurse. 1992 May. 47(5). P 19-21.
JT PENNSYLVANIA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE.* EDUCATION-NURSING: trends (td).
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).
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AU Brewer-Otte-C.
TI *Health* *care* *reform:* how will it effect nursing? Implications for
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SO Pa-Nurse. 1992 May. 47(5). P 18, 21-2.
JT PENNSYLVANIA NURSE.
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MN HUMAN. UNITED-STATES.
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TI *Health* *care* *reform:* how will it effect nursing? Practice
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SO Pa-Nurse. 1992 May. 47(5). P 18.
JT PENNSYLVANIA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* NURSING. *NURSING-CARE.*
MN HUMAN. UNITED-STATES.
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AN 92280863. 92000.
AU Nold-E-G.
IN Department of Pharmaceutical Services, University of Chicago
Hospitals, IL 60637.
TI Hospital pharmacy in 1991: the year in review.
SO Am-J-Hosp-Pharm. 1992 May. 49(5). P 1143-51.
JT AMERICAN JOURNAL OF HOSPITAL PHARMACY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Issues and activities that dominated hospital pharmacy in 1991 are reviewed, and their relationship to political and economic trends of national and international importance is described. While rising costs, equitable reimbursement, and access to *care* continued to dominate the nation's *health-care* agenda in 1991, the growing interest in quality assurance was also noteworthy. *Health-care* *reform* will likely be a dominant issue during the current election year, and pharmacists are urged to play an active role in this restructuring process, both within their work settings and in their communities. Among the major concerns of hospital pharmacy in 1991 were the appropriate use of the new products of biotechnology, advances in computer and communications technology, and measuring and improving the quality of pharmaceutical *care.* Other issues highlighted in the literature included the need to articulate a mission statement concerning pharmaceutical *care,* the role of specialization in pharmacy practice, and the appropriate allocation of human resources. The literature of hospital pharmacy continues to provide insight into the progress of the profession and to serve as a benchmark that will gauge its future course. Author-abstract. 123 Refs.
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MN COMPUTERS: trends (td). COST-CONTROL: trends (td). DRUG-INDUSTRY: trends (td).ECONOMICS-HOSPITAL: trends (td). ETHICS-PHARMACY. HUMAN. PHARMACY-SERVICE-HOSPITAL: legislation-and-jurisprudence (lj). *QUALITY-ASSURANCE-HEALTH-CARE.* SUBSTANCE-ABUSE. TIME-FACTORS. UNITED-STATES.
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SO Am-J-Hosp-Pharm. 1992 May. 49(5). P 1117.
JT AMERICAN JOURNAL OF HOSPITAL PHARMACY.

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MN *HEALTH-CARE-COSTS.* HUMAN. ORGANIZATIONAL-POLICY. PHARMACISTS:
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SB Priority Journals (M).
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AU Anderson-L.
TI *Health-care* *reform:* a 'consciously incremental approach'.
SO Kans-Med. 1992 Apr. 93(4). P 103-4.
JT KANSAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FINANCING-GOVERNMENT: trends (td). *HEALTH-CARE-COSTS:* trends (td).
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MN COST-CONTROL: trends (td). *HEALTH-SERVICES-ACCESSIBILITY:* economics
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AN 92274244. 92000.
AU Styles-M.
TI Nursing's role in *health* *care* *reform.*
SO Calif-Nurse. 1992 May. 88(5). P 8-10.
JT CALIFORNIA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* NURSING. *PRIMARY-HEALTH-CARE.*
MN HUMAN. *INSURANCE-HEALTH.* UNITED-STATES.
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ND ENTRY DATE: 920629.

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 AU Stephenson-P-A. McCreery-R.
 TI Photographs misrepresent Romanian *health* *care* *reforms* `letter:.
 SO BMJ. 1992 Apr 18. 304(6833). P 1057-8.
 JT BMJ.
 PT LETTER (LET).
 LG English (EN).
 MJ *CHILD-HEALTH-SERVICES.* PHOTOGRAPHY.
 MN CHILD. HUMAN. ROMANIA.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1992.
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 CP ENGLAND (Z1.542.363.300).
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 AU Joel-L-A.
 TI An interview with ANA president Lucille A. Joel: nursing's eye toward current and future *health* *care* issues `interview by Marilyn L. Neff:.
 SO ANNA-J. 1992 Apr. 19(2). P 173-7.
 JT ANNA JOURNAL.
 PT INTERVIEW (INT).
 LG English (EN).
 AB After two terms as president of the American Nurses Association (ANA), Lucille A. Joel, EdD, RN, FAAN, keynote speaker for ANNA's 23rd National Symposium in Chicago, will share her thoughts on nursing's future role in *health* *care.* In this interview, conducted by ANNA President Marilyn L. Neff, MBA, RN, CNN, Dr. Joel discussed current and future issues such as unity among nursing, Nursing's Agenda for *Health* *Care* *Reform,* collective bargaining, equity in workplace settings, community nursing organizations, and nursing faculty shortages. Author-abstract.
 MJ LEADERSHIP. NURSING: trends (td).
 MN AMERICAN-NURSES-ASSOCIATION. COLLECTIVE-BARGAINING: standards (st). *COMMUNITY-HEALTH-NURSING:* organization-and-administration (og). *DELIVERY-OF-HEALTH-CARE:* standards (st). EDUCATION-NURSING-GRADUATE: trends (td). FORECASTING. HUMAN. UNITED-STATES.
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 AU Trimble-R-B.
 TI *Health* *care* *reform*.
 SO Iowa-Med. 1991 Nov. 81(11). P 471.
 JT IOWA MEDICINE.
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 AU Marwick-C.
 TI For quick reference, here are candidates' positions on *health* *care*
 reform `news:.
 SO JAMA. 1992 May 13. 267(18). P 2444.
 JT JAMA.
 PT NEWS (NEW).
 LG English (EN).
 MJ *HEALTH-POLICY*.
 MN ECONOMICS-MEDICAL. HUMAN. *INSURANCE-HEALTH.* POLITICS.
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 YR 1992.
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 CP UNITED-STATES (Z1.107.567.875).
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 AU Conn-J-K.
 TI *Health* *care* *reform.* Access? Cost? *Health?* Part II.
 SO J-Fla-Med-Assoc. 1992 Mar. 79(3). P 155-6.
 JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-CARE-COSTS.* *HEALTH-SERVICES.*
 HEALTH-SERVICES-ACCESSIBILITY.
 MN GOVERNMENT. *HEALTH.* *HEALTH-SERVICES:* legislation-and-jurisprudence
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 (1j). HUMAN. PATIENT-ADVOCACY. *PRIMARY-HEALTH-CARE*.
 UNITED-STATES.
 YR 1992.

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CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 920604.

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AN 92242670. 92000.
AU Hegyvary-S-T.
IN University of Washington, Seattle 98195.
TI Nursing education for *health* *care* *reform.*
SO J-Prof-Nurs. 1992 Jan-Feb. 8(1). P 3.
JT JOURNAL OF PROFESSIONAL NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). EDUCATION-NURSING:
standards (st). *NURSING-CARE:* trends (td).
MN HUMAN. *NURSING-CARE:* methods (mt).
SB Nursing Journals (N).
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SO Nev-Rnformation. 1992 Feb. 1(1). P 9.
JT NEVADA RNFORMATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* *HEALTH-POLICY.* NURSING.
MN *HEALTH-EDUCATION.* HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
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CP UNITED-STATES (Z1.107.567.875).
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AU Velsor-Friedrich-B.
TI Nursing's agenda for *health* *care* *reform.*
SO J-Pediatr-Nurs. 1992 Apr. 7(2). P 145-6.
JT JOURNAL OF PEDIATRIC NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHILD-WELFARE. *HEALTH-POLICY.* PEDIATRIC-NURSING: standards (st).

MN AMERICAN-NURSES-ASSOCIATION. CHILD. HUMAN.
ORGANIZATIONAL-OBJECTIVES. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
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127

AN 92228463. 92000.
AU Lichter-P-R.
TI *Health* *care* *reform* and the next generation `editorial:.
SO Ophthalmology. 1992 Mar. 99(3). P 303-4.
JT OPHTHALMOLOGY.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* legislation-and-jurisprudence (lj).
OPHTHALMOLOGY: legislation-and-jurisprudence (lj).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec), trends (td). FORECASTING.
HUMAN. OPHTHALMOLOGY: economics (ec), trends (td).
SB Priority Journals (M).
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TI *Health* *care* *reform.* Time to make the dream a reality.
SO J-Intraven-Nurs. 1992 Mar-Apr. 15(2). P 74-6.
JT JOURNAL OF INTRAVENOUS NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: standards (st).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). *HEALTH-EXPENDITURES:* trends
(td). HUMAN. *NATIONAL-HEALTH-INSURANCE-UNITED-STATES:* economics
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SB Nursing Journals (N).
LI N.
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AN 92226846. 92000.
AU Moccia-P.
TI The power needed to advance nursing's agenda for *health* *care* *reform*
`editorial:.
SO J-Nurs-Educ. 1992 Feb. 31(2). P 51-2.
JT JOURNAL OF NURSING EDUCATION.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HOLISTIC-HEALTH.* NURSING.
POWER-PSYCHOLOGY.
MN HUMAN.
SB Priority Journals (M). Nursing Journals (N).
YR 1992.
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CP UNITED-STATES (Z1.107.567.875).
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AN 92225153. 92000.
TI Nursing's agenda for *health* *care* *reform.*
SO Fla-Nurse. 1992 Mar. 40(3). P 11.
JT FLORIDA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ AMERICAN-NURSES-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE.*
PRIMARY-HEALTH-CARE.
MN *HEALTH-PROMOTION.* HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0015-4199. EX8.
CP UNITED-STATES (Z1.107.567.875).
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131

AN 92216664. 92000.
TI Romanian *health* and social *care* system for children and families:
future directions in *health* *care* *reform.* Children's *Health* *Care*
Collaborative Study Group.
SO BMJ. 1992 Feb 29. 304(6826). P 556-9.
JT BMJ.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *CHILD-HEALTH-SERVICES:* trends (td). CHILD-WELFARE: trends (td).
SOCIAL-WELFARE: trends (td).
MN CHILD. CHILD-INSTITUTIONALIZED. CHILD-PRESCHOOL.
DEINSTITUTIONALIZATION. DISABLED. FAMILY. *HEALTH-PLANNING.* HUMAN.

INFANT. *LONG-TERM-CARE.* PROTEIN-ENERGY-MALNUTRITION: therapy (th).
ROMANIA.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 9207.
ND ENTRY DATE: 920511.
CLASS UPDATE: 92.

132

AN 92215315. 92000.
AU Callahan-D.
IN Hastings Center, Briarcliff Manor, New York 10510.
TI Reforming the *health* *care* system for children and the elderly to
balance cure and *care.*
SO Acad-Med. 1992 Apr. 67(4). P 219-22.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB There is now a great disparity in the United States between resources
going to the young, the nation's poorest age group, and to the
elderly, the wealthiest age group, who are absorbing a greater and
greater share of resources for *health* *care.* The author outlines
reasons that these imbalances in the groups' access to resources have
developed, and then demonstrates that, in the area of *health* *care*
reform, an entitlement program for the young is not the answer:
society must overcome its unwillingness and put into place a
universal *health* *care* system. Even with such a system, the *health*
care needs of the elderly will continue to grow and absorb more
resources, both because the percentage of elderly is rising and
because developments in medical technology continue to create new
treatment possibilities and expectations. Should the *health* *care*
needs of the elderly be allowed to absorb a more and more
disproportionate share of the nation's resources compared with the
resources used for the young? The author answers "No" and explains
why he thinks (1) that medicine should become more oriented toward
providing *care,* preventing premature death, and improving the quality
of people's lives for a reasonable span of years (for example, until
80) and less toward saving lives of the very old and incurably ill at
great cost; (2) that rationing and priority setting are inevitable
because of limited resources; and (3) that the claims of children may
on occasion need to be placed before those of the elderly. These
changes can be made only if Americans change their *health* *care* system
and some of their present values about the role of medicine.
Author-abstract.
MJ *CHILD-HEALTH-SERVICES:* standards (st). *HEALTH-CARE-RATIONING:*
standards (st). *HEALTH-SERVICES-FOR-THE-AGED:* standards (st).
HEALTH-SERVICES-NEEDS-AND-DEMAND: standards (st).

MN AGED. CHILD. *CHILD-HEALTH-SERVICES:* trends (td).
HEALTH-CARE-RATIONING: trends (td). *HEALTH-RESOURCES:* standards
(st), trends (td). *HEALTH-SERVICES-FOR-THE-AGED:* trends (td).
HEALTH-SERVICES-ACCESSIBILITY: standards (st), trends (td).
HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN.
NATIONAL-HEALTH-INSURANCE-UNITED-STATES. POVERTY:
statistics-and-numerical-data (sn). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
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133

AN 92210976. 92000.
AU Cassel-C-K.
IN University of Chicago, Illinois.
TI Issues of age and chronic *care:* another argument for *health* *care*
reform.
SO J-Am-Geriater-Soc. 1992 Apr. 40(4). P 404-9.
JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). ETHICS-MEDICAL.
HEALTH-CARE-RATIONING: standards (st). *LONG-TERM-CARE:* standards
(st).
MN AGE-FACTORS. AGED. CLINICAL-MEDICINE:
organization-and-administration (og). *DELIVERY-OF-HEALTH-CARE:*
economics (ec). GOALS. *HEALTH-CARE-RATIONING:* economics (ec).
HEALTH-POLICY: economics (ec). HUMAN. HUMANISM. *LONG-TERM-CARE:*
economics (ec). PATIENT-ADVOCACY. QUALITY-OF-LIFE.
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0002-8614. H6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920501.
NO K07AG0618802. GRANT: AG. INSTITUTE: NIA.

134

AN 92204651. 92000.
AU Tiger-E.
TI Nurses can influence *health* *care* *reform.*
SO Pa-Nurse. 1992 Mar. 47(3). P 25-6.
JT PENNSYLVANIA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* NURSES.

MN HUMAN. SOCIAL-RESPONSIBILITY. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0031-4617. 00J.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920430.

135

AN 92189689. 92000.
AU Sullivan-L-W.
IN Department of *Health* and Human Services, Washington, DC.
TI The U.S. *health* *care* system: challenges for the academic *health* professions community.
SO Acad-Med. 1992 Feb. 67(2). P 65-7.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The author discusses the need to create structural *reforms* in the nation's *health* *care* system, built around a consensus on workable, affordable solutions, the first of four needs in this area, and presents a set of principles that must frame the debate on *health* *care* *reform* (e.g., that *health* *care* must be accessible to all Americans). He also presents practical options that address the United States' most urgent *health* *care* concerns (e.g., making the cost of *health* insurance more affordable for small businesses). The second need is to preserve and strengthen the nation's biomedical research enterprise; the author outlines steps that are already under way to deal with this need (e.g., the development of a Biomedical Research Initiative in the Public *Health* Service and the allocation of funds for various research-connected activities). The third need is to increase the participation of minority youth in science and the *health* professions; the author outlines steps that are being taken to encourage such participation (e.g., helping historically black colleges and universities and funding training programs for training minority professionals in *health* *care*).* The last need discussed is to foster a culture of character: empowering citizens to take control of their own lives to eliminate costly debilitating illness before it strikes. For all these needs to be addressed successfully, it is crucial that the involvement of the academic *health* professions community and the community at large be expanded. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
HEALTH-POLICY. *HEALTH-PROMOTION.* MINORITY-GROUPS: education (ed).
MN EDUCATION-MEDICAL. *HEALTH-CARE-COSTS.*
HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *INSURANCE-HEALTH:* economics (ec). RESEARCH: economics (ec). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 1040-2446. ACM.

CP UNITED-STATES (Z1.107.567.875).
IM 9206.
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136

AN 92187285. 92000.
TI National *health* *care* *reform* politically divisive but on the agenda.
SO *Nurs-Health-Care.* 1992 Feb. 13(2). P 62-3.
JT NURSING AND *HEALTH* *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-POLICY.* POLITICS.
SOCIETIES-NURSING.
MN DISTRICT-OF-COLUMBIA. HUMAN. LOBBYING.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0276-5284. N77.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920415.

137

AN 92181003. 92000.
TI Executive summary. Nursing's agenda for *health* *care* *reform.*
SO Am-Nurse. 1992 Mar. 24(3). P 7.
JT AMERICAN NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-POLICY:* legislation-and-jurisprudence (lj). *HEALTH-PROMOTION.*
NURSING. *PRIMARY-HEALTH-CARE.*
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920409.
LAST REVISION DATE: 920916.

138

AN 92174238. 92000.
TI Nurses impact *health* *care* *reform.*
SO Colo-Nurse. 1992 Jan-Feb. 92(1). P 1, 3.
JT COLORADO NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-SERVICES:* organization-and-administration (og). NURSING.
MN COLORADO. *DELIVERY-OF-HEALTH-CARE.* HUMAN. SOCIETIES-NURSING.

SB Nursing Journals (N).
LI N.
YR 1992.
IS 8750-846X. CON.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920409.

139

AN 92172126. 92000.
AU Rockefeller-J.
TI *Health* *care* *reform:* prospects and progress.
SO Acad-Med. 1992 Mar. 67(3). P 141-5.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB No longer can the *health* *care* community and the politicians work separately as they usually did until just a generation ago. Now, with or without the frustrations involved, both groups need one another and must work together to fulfill their common goal of caring for people. The U.S. economy can no longer sustain the immense and mounting costs of *health* *care:* the system must change drastically before the end of the century or there will be revolution or a collapse of the system. For the first time, there is a strong constituency calling for *health* *care* *reform.* The politicians and the *health* *care* community must stop ignoring that constituency and instead work together on a *health* *care* bill to head off the coming crisis. Such a bill will exact sacrifices and compromises from all sectors, and must control costs and provide universal access to *health* *care.* The author outlines proposed bills and other activities that are now being considered, describes a bill that he has helped craft and introduce, and notes that the Bush administration has done an about-face and is now promising a *health* *care* bill. He challenges academic medicine to help produce more primary *care* physicians, gives examples of efforts that are fostering primary *care,* especially in rural areas, and explains why having more primary *care* physicians is vital and also a key to cost containment. He ends by again urging the *health* *care* community to participate in defining what can be done to avert the coming crisis and establish a workable and equitable *health* *care* system. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). HUMAN. MEDICARE: economics (ec), trends (td).UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920407.

140

AN 92167924. 92000.
TI MMA grapples with *health* *care* *reform.* Minnesota Medical Association
Legislative Staff.
SO Minn-Med. 1992 Jan. 75(1). P 23-5.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-SERVICES-ACCESSIBILITY:* legislation-and-jurisprudence (lj).
MEDICAL-INDIGENCY: legislation-and-jurisprudence (lj).
QUALITY-ASSURANCE-HEALTH-CARE: legislation-and-jurisprudence (lj).
MN COST-CONTROL: legislation-and-jurisprudence (lj). HUMAN.
MINNESOTA.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

141

AN 92167880. 92000.
AU Fox-D-M.
TI The Milbank Quarterly and *health* services research, 1977-1990.
SO Milbank-Q. 1991. 69(2). P 185-97.
JT MILBANK QUARTERLY.
PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE
(ART).
LG English (EN).
AB This article explores the relationship between the Quarterly and the
contemporary history of *health* services research. Between 1977 and
1990 most of the articles in the Quarterly addressed the dominant
concerns of the growing constituency that identified with the newly
named field of *health* services research. However, the Quarterly also
reflected its editor's interest in an older tradition of *health* *care*
reform and public *health* in the United States and abroad. An
analysis of the articles published in the Quarterly in three periods
(1977-1981, 1981-1986, 1986-1990) reveals themes that received
consistent attention, others that received increasing attention, and
still others that were accorded diminished attention. This analysis
highlights the value of the Quarterly as a source of insight about
the individuals who have written for, edited, guided, and read it.
Author-abstract.
MJ *HEALTH-SERVICES-RESEARCH:* history (hi). PERIODICALS: history (hi).
PUBLISHING: history (hi).
MN FORECASTING. *HEALTH-POLICY.* *HEALTH-PRIORITIES:* trends (td).
HEALTH-SERVICES-RESEARCH: trends (td).
HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. ORGANIZATIONAL-OBJECTIVES.
PERIODICALS: standards (st), trends (td). PUBLISHING:
organization-and-administration (og), standards (st). UNITED-STATES.

PN Willis-D-P.
SB Priority Journals (M).
YR 1991.
IS 0887-378X. M9Q.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920331.

142

AN 92167507. 92000.
AU Reiser-S-J.
IN Program on Humanities and Technology in *Health* *Care,* The University
of Texas *Health* Science Center, Houston 77225.
TI Consumer competence and the *reform* of American *health* *care.*
SO JAMA. 1992 Mar 18. 267(11). P 1511-5.
JT JAMA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB This report examines the role of the expert in the American *health*
care system, both as provider and administrative policymaker. It
shows that the guiding assumption of American *health* *care* policy, ie,
that the medical system can and should be managed by experts on
behalf of consumers and patients, does not hold up to scrutiny. It
also demonstrates that the important theme in American history of
placing authority and responsibility for action in the hands of the
individual has not been sufficiently influential in American *health*
care. Drawing on this theme and creating consumer competence and
responsibility in *health* *care* choices as the keys to *health* *care*
reform in the United States are advocated. Author-abstract. 21
Refs.
MJ CONSUMER-PARTICIPATION. *DELIVERY-OF-HEALTH-CARE:*
organization-and-administration (og). *HEALTH-POLICY.*
MN ADULT. CONSUMER-PARTICIPATION: economics (ec).
HEALTH-BENEFIT-PLANS-EMPLOYEE. HOSPITAL-ADMINISTRATORS. HUMAN.
INFORMED-CONSENT. INSURANCE-SELECTION-BIAS. LIVING-WILLS.
PHYSICIANS-ROLE. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

143

AN 92162451. 92000.
AU Jennings-C-P.
TI Comprehensive *health* *care* *reform:* how close are we? `published
erratum appears in J Am Acad Nurse Pract 1992 Jan-Mar;4(1):45:.
SO J-Am-Acad-Nurse-Pract. 1991 Oct-Dec. 3(4). P 190-2.

JT JOURNAL OF THE AMERICAN ACADEMY OF NURSE PRACTITIONERS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *NATIONAL-HEALTH-INSURANCE-UNITED-STATES:*
legislation-and-jurisprudence (lj).
MN HUMAN. *NATIONAL-HEALTH-INSURANCE-UNITED-STATES:* standards (st).
UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1991.
IS 1041-2972. ASE.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920402.
LAST REVISION DATE: 920805.

144

AN 92162111. 92000.
AU Haag-A-B. Glazner-L-K.
TI A remembrance of the past, an investment for the future.
SO AAOHN-J. 1992 Feb. 40(2). P 56-60.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Occupational *health* nursing has evolved from a single dimension
practice into a complex role providing primary *care,* *health*
maintenance, and disease prevention programs at the worksite. The
focus of the 1990s will be on managed *care,* *health* *care* *reform,* and
competition for resources. Occupational *health* nurses are in a
strategic position to foster the objectives set forth in Healthy
People 2000. Occupational *health* nurses must take the lead in the
development and implementation of cost effective *health* *care* programs
at the worksite. Occupational *health* nurses must communicate and
demonstrate the nature and value of their contributions; demonstrate
their competencies; and become knowledgeable in all areas of
occupational *health* and safety. They must acknowledge that they are
leaders in workplace *health* and safety. Author-abstract.
MJ JOB-DESCRIPTION. *OCCUPATIONAL-HEALTH-NURSING:* trends (td). ROLE.
MN FORECASTING. HUMAN. *OCCUPATIONAL-HEALTH-NURSING:* methods (mt).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920402.

145

AN 92162105. 92000.
AU Babbitz-M-A.

TI Approaching the 21st century. Congressional agenda for *health* *care* and occupational *health*.
 SO AAOHN-J. 1992 Jan. 40(1). P 12-6.
 JT AAOHN JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB 1. Major *health* related legislative issues for occupational *health* nurses in the 1990s are OSH Act *reform* and restructure of the *health* *care* system. 2. OSHA *reform* issues have been consolidated into the Comprehensive Occupational Safety and *Health* *Reform* Act (S1622 and HR3160). 3. *Health* *care* *reform* is being addressed by many legislative initiatives and by organized nursing in Nursing's Agenda for *Health* *Care* *Reform*.* 4. As the professional association for occupational *health* nurses, AAOHN serves as an advocate for the profession with the federal government. Author-abstract.
 MJ *OCCUPATIONAL-HEALTH:* legislation-and-jurisprudence (lj).
 MN *HEALTH-PRIORITIES.* HUMAN. *OCCUPATIONAL-HEALTH-NURSING:* legislation-and-jurisprudence (lj). ORGANIZATIONAL-POLICY. SOCIETIES-NURSING: organization-and-administration (og). UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 0891-0162. AA0.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9206.
 ND ENTRY DATE: 920402.

146

AN 92161791. 92000.
 AU Palmer-P-N.
 TI Nursing organizations discuss *health* *care* *reform,* Safe Medical Device Act, AIDS.
 SO AORN-J. 1992 Feb. 55(2). P 592-600.
 JT AORN JOURNAL.
 PT MEETING-REPORT (MET).
 LG English (EN).
 MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: transmission (tm). *HEALTH-PERSONNEL.* PATIENTS. SOCIETIES-NURSING.
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JT AORN JOURNAL.
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LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* *HEALTH-SERVICES:*\norganization-and-administration (og). NURSES.
MN AMERICAN-NURSES-ASSOCIATION. HUMAN. UNITED-STATES.
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TI Nursing agenda for *health* *care* *reform.*
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JT INSIGHT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-POLICY.*\nOPHTHALMOLOGY. SOCIETIES-NURSING.
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LI N.
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CP UNITED-STATES (Z1.107.567.875).
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AU Joel-L.
TI Nursing moves forward with agenda for *health* *care* *reform* `interview
by Sue Kelly:.
SO Pa-Nurse. 1992 Jan. 47(1). P 1-3.
JT PENNSYLVANIA NURSE.
PT INTERVIEW (INT).
LG English (EN).
MJ AMERICAN-NURSES-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE:* trends (td).\nNURSING.
MN *HEALTH-POLICY.* HUMAN. UNITED-STATES.
SB Nursing Journals (N).
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CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 920220.
CLASS UPDATE: 92.

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AN 92113145. 92000.
AU Gershen-J-A.
IN Section of Public *Health* Dentistry 63-045 CHS, School of Dentistry,
University of California, Los Angeles 90024-1668.
TI Should dental education be at the table for national *health* *care*
reform? The answer is absolutely yes]
SO J-Dent-Educ. 1991 Dec. 55(12). P 768-9.
JT JOURNAL OF DENTAL EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DENTISTRY. EDUCATION-DENTAL. *HEALTH-POLICY:*
legislation-and-jurisprudence (lj). *HEALTH-SERVICES:*
legislation-and-jurisprudence (lj).
MN HUMAN. UNITED-STATES.
SB Priority Journals (M). Dental Journals (D).
YR 1991.
IS 0022-0337. HY7.
CP UNITED-STATES (Z1.107.567.875).
IM 9204.
ND ENTRY DATE: 920214.

151

AN 92110067. 92000.
AU Potucek-M.
IN Faculty of Social Sciences, Charles University, Prague,
Czechoslovakia.
TI The *health* *care* *reform* in Czechoslovakia after 17 November 1989.
SO *J-Public-Health-Med.* 1991 Nov. 13(4). P 290-4.
JT JOURNAL OF PUBLIC *HEALTH* MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This paper describes the present state and discusses the future
prospects of the Czechoslovak *health* services. The crisis in the
state of *health* of the Czechoslovak population is briefly outlined
and the main conditions of the social transformation are considered.
The key features of the proposed new system of *health* *care* in the
Czech republic are critically evaluated. Collaboration with
individuals and institutions in the United Kingdom in the
preparation, evaluation and implementation of the consecutive stages
of this *reform* will be much appreciated. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
HEALTH-PRIORITIES.
MN BUDGETS. CZECHOSLOVAKIA. *DELIVERY-OF-HEALTH-CARE:* economics (ec),

trends (td). ECONOMIC-COMPETITION. FINANCING-ORGANIZED.
FORECASTING. *HEALTH-PLANNING-GUIDELINES.*
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INSURANCE-HEALTH. INTERINSTITUTIONAL-RELATIONS. SOCIAL-CHANGE.

SB Priority Journals (M).

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ND ENTRY DATE: 920219.

152

AN 92085243. 92000.

AU Allen-A.

TI Physicians' plan for *health* *care* *reform*.

SO J-Post-Anesth-Nurs. 1991 Dec. 6(6). P 426-8.

JT JOURNAL OF POST ANESTHESIA NURSING.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Numerous proposals have been made for *health* *care* *reform* during the last decade. Still, the richest *health* *care* system in the world offers little or nothing to millions of Americans. The quality of nursing practice is threatened by calls for rationing of *health* *care* resources and cost control. The Canadian system for national *health* *care* is frequently cited as a model for *health* *care* *reform* in the United States. Physicians for a National *Health* Program have designed a plan similar to that of Canada. This article presents an overview of the physicians' proposal and suggests its comparison with that of the Pepper Commission. Author-abstract.

MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
FINANCING-ORGANIZED.

MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). FEES-AND-CHARGES.

FINANCIAL-MANAGEMENT-HOSPITAL. HUMAN. INCOME.

NATIONAL-HEALTH-INSURANCE-UNITED-STATES. UNITED-STATES.

SB Nursing Journals (N).

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CP UNITED-STATES (Z1.107.567.875).

IM 9203.

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153

AN 92077632. 92000.

AU Hagland-M-M.

TI Top developments in *health* *care:* a watershed year.

SO Hospitals. 1991 Dec 20. 65(24). P 26-9.

JT HOSPITALS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Regulations, reimbursement battles, collaboration efforts, financial difficulties and the *reform* process all helped make 1991 a watershed year for *health* *care* issues--and an eventful one for executives. News media attention to *health* *care* policy, financing and delivery issues was intense: television, radio and print coverage focused on overcrowded emergency departments, uninsured pregnant women with no access to obstetrical *care,* employers demanding cost-efficient *care* and the pluses and minuses of foreign *health* *care* systems. The close of 1991 left hospital executives dealing with the effects of issues like the Medicare capital payment fold-in, physician payment *reform,* hospitals' geographic reclassification and the push for national *health* *care* *reform.* Below are brief summaries of some of the year's top issues. Author-abstract.

MJ *HEALTH-POLICY:* trends (td).

MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc). AMERICAN-HOSPITAL-ASSOCIATION. CAPITAL-EXPENDITURES: legislation-and-jurisprudence (lj). CENTERS-FOR-DISEASE-CONTROL-U-S. EMERGENCY-SERVICE-HOSPITAL: utilization (ut). ENVIRONMENT. HOSPITALS: classification (cl). HUMAN. MEDICAID: legislation-and-jurisprudence (lj). MEDICARE: legislation-and-jurisprudence (lj). RELATIVE-VALUE-SCALES. TAXES: legislation-and-jurisprudence (lj). UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0018-5973. GDL.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920116.

154

AN 92077583. 92000.

AU Mizrahi-T.

IN Hunter College School of Social Work, New York, NY 10021.

TI Social work takes active role in *health* *care* *reform.*

SO Hosp-Community-Psychiatry. 1991 Nov. 42(11). P 1095-6, 1102.

JT HOSPITAL AND COMMUNITY PSYCHIATRY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *HEALTH-POLICY:* trends (td). SOCIAL-WORK. SOCIETIES: organization-and-administration(og).

MN *HEALTH-CARE-COSTS.* HUMAN. *INSURANCE-HEALTH:* economics (ec). ORGANIZATIONAL-OBJECTIVES. ORGANIZATIONAL-POLICY. POLITICS. UNITED-STATES.

SB Priority Journals (M).

YR 1991.

IS 0022-1597. GCJ.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920113.

155

AN 92072773. 92000.
AU Steinman-T-I.
TI *Health* *care* *reform:* a new approach `editorial:.
SO Nephrol-News-Issues. 1991 Jul. 5(7). P 5, 35.
JT NEPHROLOGY NEWS AND ISSUES.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec).
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MN *DELIVERY-OF-HEALTH-CARE:* standards (st). HUMAN. UNITED-STATES.
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CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920106.

156

AN 92067071. 92000.
TI A look toward the future: nursing's agenda for *health* *care* *reform.*
SO Tex-Nurs. 1991 Oct. 65(9). P 4-5.
JT TEXAS NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-POLICY.* *HEALTH-SERVICES:* organization-and-administration
(og). NURSING.
MN *HEALTH-PROMOTION.* HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
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ND ENTRY DATE: 920102.

157

AN 92066011. 92000.
AU Wakefield-M-K. Bocchino-C-A.
TI *Health* *care* *reform:* the proposals are on the table.
SO Nurs-Econ. 1991 Nov-Dec. 9(6). P 434-6, 443.
JT NURSING ECONOMICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COST-CONTROL. *DELIVERY-OF-HEALTH-CARE:* legislation-and-jurisprudence
(lj). *QUALITY-OF-HEALTH-CARE.*
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec), standards (st). HUMAN.
UNITED-STATES.

SB Nursing Journals (N).
LI N.
YR 1991.
IS 0746-1739. NUE.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920102.

158

AN 92066001. 92000.
AU Mahrenholz-D-M.
TI "Pay or play" *health* *care* *reform* proposals.
SO Nursingconnections. 1991 Fall. 4(3). P 46-9.
JT NURSINGCONNECTIONS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PLANNING.* *INSURANCE-HEALTH:* legislation-and-jurisprudence
(lj). *NATIONAL-HEALTH-INSURANCE-UNITED-STATES:*
legislation-and-jurisprudence (lj).
MN HUMAN. *INSURANCE-HEALTH:* economics (ec). UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1991.
IS 0895-2809. NUC.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920102.

159

AN 92060259. 92000.
TI Nursing's agenda for *health* *care* *reform.*
SO Am-Nurse. 1991 Apr. 23(4). P suppl 1-4.
JT AMERICAN NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ AMERICAN-NURSES-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE.*
HEALTH-POLICY. *HEALTH-SERVICES:* organization-and-administration
(og). SOCIETIES-NURSING.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1991.
IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9202.
ND ENTRY DATE: 911217.

160

AN 92060244. 92000.
TI Plan calls for *health* *care* *reform.*

SO Am-Nurse. 1991 Mar. 23(3). P 1, 8.
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PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-POLICY.* *HEALTH-SERVICES:* organization-and-administration
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MN AMERICAN-NURSES-ASSOCIATION. HUMAN. UNITED-STATES.
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LI N.
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CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 911220.

161

AN 92052676. 92000.
AU Dugas-B.
TI Nursing's agenda for *health* *care* *reform* `editorial:.
SO Plast-Surg-Nurs. 1991 Fall. 11(3). P 93.
JT PLASTIC SURGICAL NURSING.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). ORGANIZATIONAL-POLICY.
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SPECIALTIES-NURSING. SURGERY-PLASTIC.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
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CP UNITED-STATES (Z1.107.567.875).
IM 9202.
ND ENTRY DATE: 911217.

162

AN 92013691. 92000.
AU Caplan-R-L.
IN Department of Urban Studies and Community *Health,* Rutgers University,
New Brunswick, NJ 08903.
TI *Health-care* *reform* and chiropractic in the 1990s.
SO J-Manipulative-Physiol-Ther. 1991 Jul-Aug. 14(6). P 341-54.
JT JOURNAL OF MANIPULATIVE AND PHYSIOLOGICAL THERAPEUTICS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The organization and finance of *health* *care* in the United States are
likely to change dramatically during the 1990s. During the first
half of the decade, pro-competition strategies, which characterized
the 1980s, are likely to continue. However, by the end of the
decade, the country will probably adopt some form of national *health*

care. After briefly discussing both possibilities, this paper investigates their likely impact on the future practice of chiropractic in the United States, and concludes with some policy recommendations. Author-abstract. 125 Refs.

MJ CHIROPRACTIC: trends (td). *DELIVERY-OF-HEALTH-CARE:* trends (td). PROFESSIONAL-PRACTICE: trends (td).
MN CHIROPRACTIC: organization-and-administration (og), standards (st). *DELIVERY-OF-HEALTH-CARE:* economics (ec), organization-and-administration (og). FORECASTING. *HOLISTIC-HEALTH.* HUMAN. ORGANIZATIONAL-OBJECTIVES. ORGANIZATIONAL-POLICY. PROFESSIONAL-PRACTICE: organization-and-administration (og), standards (st). TECHNOLOGY-ASSESSMENT-BIOMEDICAL. UNITED-STATES.
SB Priority Journals (M).
YR 1991.
IS 0161-4754. IY5.
CP UNITED-STATES (Z1.107.567.875).
IM 9201.
ND ENTRY DATE: 911105.

163

AN 92010219. 92000.
AU Mor-V.
TI *Health* services research on HIV disease: what's new, what's unique? `editorial; comment:.
CM Comment on: Inquiry 1991 Fall;28(3):213-25. Comment on: Inquiry 1991 Fall;28(3):249-54.
SO Inquiry. 1991 Fall. 28(3). P 209-12.
JT INQUIRY.
PT COMMENT (COM). EDITORIAL (EDI).
LG English (EN).
AB The human and social costs of the human immunodeficiency virus are mounting rapidly in the U.S. and abroad. It is likely that this disease will help catapult us into *health* *care* *reform* in the current decade. Hopefully, *health* services research on HIV disease will contribute to the debate on what the nature of this *reform* should be. We need to understand the implications of access barriers facing those with no insurance as distinct from those with public insurance. We must grapple with and understand the implications for estimating the costs of AIDS, of open-ended, publicly funded acute *care* for persons with HIV. Furthermore, we must understand the long-term *care* needs of chronically ill AIDS patients with frequent periodic life-threatening acute events and the optimum structure(s) necessary to provide such *care.* Above all, we must be sensitive to the rapidly evolving treatments for HIV and the fact that these can make cost projections completely obsolete almost before they are made. *Health* services research on HIV disease must, of necessity, focus on many of the traditional themes of our emerging discipline. At the same time, the fact that it is an infectious disease with an observable transformation into a chronic condition has implications for the way we study it and how we define the emergence of clinical disease.

This has implications for how we conduct *health* services research on the entity and may push us toward a new set of methodologies that borrow more from epidemiology than cost accounting.

Author-abstract.

MJ DISEASE-OUTBREAKS: prevention-and-control (pc).
HEALTH-SERVICES-RESEARCH. HIV-INFECTIONS: epidemiology (ep).
MN COSTS-AND-COST-ANALYSIS. *HEALTH-SERVICES-ACCESSIBILITY:* economics (ec). HUMAN. HIV-INFECTIONS: diagnosis (di), economics (ec).
MEDICALLY-UNINSURED. UNITED-STATES: epidemiology (ep).
SB Priority Journals (M).
YR 1991.
IS 0046-9580. GOT.
CP UNITED-STATES (Z1.107.567.875).
IM 9201.
ND ENTRY DATE: 911107.
CLASS UPDATE: 92.

164

AN 92002974. 92000.
AU Gervas-J. Perez-Fernandez-M.
TI `Spanish *health* *care* *reform* (letter):.
TT La reforma sanitaria espanola.
SO Aten-Primaria. 1990 Jul-Aug. 7(7). P 527-8, 530.
JT ATENCION PRIMARIA.
PT LETTER (LET).
LG Spanish (SP).
MJ *PRIMARY-HEALTH-CARE.*
MN HUMAN. SPAIN.
YR 1990.
IS 0212-6567. A5F.
CP SPAIN (Z1.542.846).
IM 9201.
ND ENTRY DATE: 911113.

165

AN 91372485. 91000.
TI Nursing's agenda for *health* *care* *reform.*
SO Fla-Nurse. 1991 Sep. 38(8). P 16.
JT FLORIDA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-POLICY.* *HEALTH-SERVICES:* trends (td). NURSING.
MN FLORIDA. HUMAN. SOCIETIES-NURSING. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1991.
IS 0015-4199. EX8.
CP UNITED-STATES (Z1.107.567.875).
IM 9112.
ND ENTRY DATE: 911024.

166

AN 91342323. 91000.
AU Greenberg-D-S.
TI Bush plays safe on *health-care* *reform* `news:.
SO Lancet. 1991 Aug 31. 338(8766). P 561-2.
JT LANCET.
PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). NEWS (NEW).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). FAMOUS-PERSONS.
MN *DELIVERY-OF-HEALTH-CARE:* trends (td). FINANCING-GOVERNMENT:
economics (ec), history (hi). HISTORY-OF-MEDICINE-20TH-CENT. HUMAN.
INSURANCE-HEALTH. MEDICAID: economics (ec), history (hi).
UNITED-STATES.
PN Bush-G.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0023-7507. L0S.
CP ENGLAND (Z1.542.363.300).
IM 9111.
ND ENTRY DATE: 910924.

167

AN 91336763. 91000.
TI Nursing's agenda for *health* *care* *reform.*
SO ANNA-J. 1991 Aug. 18(4). P 1-23 suppl.
JT ANNA JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-PLANNING-GUIDELINES.*
HEALTH-SERVICES-ACCESSIBILITY: standards (st). SOCIETIES-NURSING:
organization-and-administration (og).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN.
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SB Nursing Journals (N).
LI N.
YR 1991.
IS 8750-0779. 61F.
CP UNITED-STATES (Z1.107.567.875).
IM 9111.
ND ENTRY DATE: 910919.

168

AN 91325486. 91000.
AU Gagnon-L.
TI Act now to implement nursing's agenda for *health* *care* *reform*
`editorial:.
SO J-Emerg-Nurs. 1991 Aug. 17(4). P 189.

JT JOURNAL OF EMERGENCY NURSING.
 PT EDITORIAL (EDI).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-POLICY.*
 ORGANIZATIONAL-POLICY. SOCIETIES-NURSING:
 organization-and-administration (og).
 MN HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1991.
 IS 0099-1767. KRU.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9111.
 ND ENTRY DATE: 910912.

169

AN 91301618. 91000.
 AU Burke-M.
 TI *Health* *care* heats up as potential presidential campaign issue.
 SO Hospitals. 1991 Aug 5. 65(15). P 38-40.
 JT HOSPITALS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB *Health* *care* professionals and election analysts agree that *health*
 care will be a bigger issue in the 1992 election than it was in 1988.
 Among the reasons: Some prominent members of Congress are active in
 health *care* issues, media coverage of *health* insurance problems is
 growing, and several major *health* *care* *reform* bills have been
 introduced in Congress. Author-abstract.
 MJ *HEALTH-POLICY:* legislation-and-jurisprudence (lj). POLITICS.
 MN AGED. CONSUMER-ORGANIZATIONS. HUMAN. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1991.
 IS 0018-5973. GDL.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9110.
 ND ENTRY DATE: 910821.

170

AN 91289219. 91000.
 AU Belcher-J-R. Palley-H-A.
 IN School of Social Work and Community Planning, University of Maryland,
 Baltimore 21201.
 TI The prospects for national *health* insurance *reform*.
 SO *Soc-Work-Health-Care.* 1991. 15(3). P 101-19.
 JT SOCIAL WORK IN *HEALTH* *CARE*.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB This article explores the unequal access to *health* *care* in the
 context of efforts by the American Medical Association (AMA) and its

allies to maintain a market-maximizing *health* *care* system. The coalition between the AMA and its traditional allies is breaking down, in part, because of converging developments creating an atmosphere which may be more conducive to national *health* *care* *reform* and the development of a reformed *health* *care* delivery system that will be accessible, adequate, and equitable in meeting the *health* *care* and related social service needs of the American people.

Author-abstract. 52 Refs.

MJ *NATIONAL-HEALTH-PROGRAMS:* legislation-and-jurisprudence (lj).

MN AMERICAN-MEDICAL-ASSOCIATION. *ATTITUDE-TO-HEALTH.*

DELIVERY-OF-HEALTH-CARE: standards (st), trends (td). FORECASTING.

HUMAN. MEDICARE: economics (ec), legislation-and-jurisprudence (lj).

NATIONAL-HEALTH-PROGRAMS: trends (td). SOCIAL-WORK: standards (st).

UNITED-STATES.

SB Priority Journals (M).

YR 1991.

IS 0098-1389. U95.

CP UNITED-STATES (Z1.107.567.875).

IM 9110.

ND ENTRY DATE: 910806.

171

AN 91264310. 91000.

TI Nursing's agenda for *health* *care* *reform.*

SO Am-Nurse. 1991 Jun. 23(6). P suppl 1-24.

JT AMERICAN NURSE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE.* *HEALTH-SERVICES:*

organization-and-administration (og). NURSING. PATIENT-ADVOCACY.

MN HUMAN. *QUALITY-OF-HEALTH-CARE.* UNITED-STATES.

SB Nursing Journals (N).

LI N.

YR 1991.

IS 0098-1486. 40D.

CP UNITED-STATES (Z1.107.567.875).

IM 9109.

ND ENTRY DATE: 910717.

172

AN 91219147. 91000.

TI Nursing distributes draft plan for *health* *care* *reform.*

SO Pa-Nurse. 1991 Apr. 46(4). P 7, 10.

JT PENNSYLVANIA NURSE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ AMERICAN-NURSES-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE.*

HEALTH-SERVICES: organization-and-administration (og).

MN HUMAN. UNITED-STATES.

SB Nursing Journals (N).

LI N.
YR 1991.
IS 0031-4617. 00J.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910606.

173

AN 91112647. 91000.
AU Daschle-T.
TI Larger RN role seen in *health* *care* *reform.* As I see it.
SO Am-Nurse. 1991 Jan. 23(1). P 5.
JT AMERICAN NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-SERVICES:* trends (td). NURSING: trends (td).
MN HUMAN. RURAL-POPULATION. UNITED-STATES.
SB Nursing Journals (N).
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PT EDITORIAL (EDI).
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strategy for reforming the delivery and reimbursement of *health* *care*,
can be a model for national *health* *care* *reform.* Author-abstract.
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IN Department of Family Medicine, University of Colorado School of
Medicine, Denver 80220.
TI Prevention in medical education: an uncertain future.
SO J-Gen-Intern-Med. 1990 Sep-Oct. 5(5 Suppl). P S108-11.
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PT JOURNAL-ARTICLE (ART).
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AB There is reason for pessimism about the incorporation of prevention
into medical education. In addition to what might be called the
standard reasons for resistance to prevention, there are at least
three other structural barriers: the destabilization of the *health*
care system, the loss of interest in careers in primary *care,* and
preventive medicine's failure to adopt a far-reaching critique of
medicine and medical education. Only through linkages to progressive
health *care* *reform,* to primary *care,* and to the biopsychosocial model
can prevention achieve an important place in medical education.
Author-abstract.
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SO J-Med-Assoc-Ga. 1990 Aug. 79(8). P 612-4.
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ND ENTRY DATE: 901102.

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AU Mitchell-P-H. Krueger-J-C. Moody-L-E.
IN University of Washington, Seattle.
TI The crisis of the *health* *care* nonsystem.
SO Nurs-Outlook. 1990 Sep-Oct. 38(5). P 214-7.
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PT JOURNAL-ARTICLE (ART).
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AB Far from being the best in the world, the United States' cure-oriented patchwork of fee-for-service service medical *care* has left 37 million American citizens without access to *health* *care.* The new public debate on *health* *care* *reform* gives nurses an opportunity to transform this ineffective market-oriented medical model into a universal, true *health* *care* system. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-POLICY:* standards (st). LEADERSHIP. NURSES.
MN *ATTITUDE-TO-HEALTH.* COST-CONTROL. *DELIVERY-OF-HEALTH-CARE:* economics (ec), trends (td). *HEALTH-PLANNING.* *HEALTH-SERVICES-ACCESSIBILITY:* standards (st). HUMAN. *INSURANCE-HEALTH.* *PATIENT-ACCEPTANCE-OF-HEALTH-CARE.* POLITICS. *QUALITY-OF-HEALTH-CARE.* UNITED-STATES.
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IN University of California, Los Angeles.
TI Principles for a national *health* program: a framework for analysis and development.
SO Milbank-Q. 1988. 66(4). P 573-617.
JT MILBANK QUARTERLY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Growing gaps in *health* insurance coverage have generated increased interest in enactment of major *reforms.* A framework for evaluating proposals embodying different approaches to a national *health* program is offered, highlighting seven dimensions: inclusiveness of coverage; comprehensiveness of benefits; financing methods; efficiency of resource utilization; extent of planning and market forces in

resource allocation; accountability to beneficiaries; and political feasibility. Four *health* *care* *reform* bills in the Congress are shown either to emphasize political feasibility at the expense or universal coverage and comprehensive benefits, or to stress coverage, benefits, and system *reform* at the cost of such feasibility. Author-abstract.

MJ *HEALTH-PLANNING:* organization-and-administration (og).
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HUMAN. INSURANCE-BENEFITS. REIMBURSEMENT-MECHANISMS.
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TI Political trends and *health* *care* *reform.*
SO *Nurs-Health-Care.* 1989 Apr. 10(4). P 178-9.
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PT JOURNAL-ARTICLE (ART).
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AU Innes-J.
TI *Health* *care* *reform:* sketching the future. Part two.
SO AARN-News-Lett. 1987 Sep. 43(8). P 1, 5-6.
JT AARN NEWS LETTER.
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MJ *COMMUNITY-HEALTH-SERVICES:* trends (td). *PRIMARY-HEALTH-CARE:* trends
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AU Miller-I.
IN Governors State University, University Park, IL 60466.
TI Interpreneurship: a community coalition approach to *health* *care*
reform.
SO Inquiry. 1987 Fall. 24(3). P 266-75.
JT INQUIRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Interpreneurship-networking by coalitions to build innovative
institutions to address community and societal problems-has been a
vital force in America since colonial times. In this paper, I
describe the interpreneurial framework of today: the five steps that
seem necessary to effect fundamental change in a community and the
four factors that must be considered in attempts to effect change.
As an example of this framework, I describe the activity that led to
the creation of a *health* maintenance organization in the early 1970s
in Cincinnati. This case study-in which a Blue Cross Plan played a
pivotal role-and my discussion of specific avenues for action might
be helpful to communities that wish to develop an interpreneurial
reform strategy for change. Author-abstract.
MJ *COMMUNITY-HEALTH-SERVICES:* organization-and-administration (og).
HEALTH-CARE-COALITIONS. *HEALTH-MAINTENANCE-ORGANIZATIONS:*
organization-and-administration (og). *HEALTH-PLANNING-ORGANIZATIONS.*
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OHIO. ORGANIZATIONAL-INNOVATION. SOCIAL-CHANGE.
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IM 8801.
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SEARCH 3-->

Cell. 86(2):189-99, 1996 Jul 26.

Abstract

Stress is believed to activate sphingomyelinase to generate ceramide, which serves as a second messenger in initiating the apoptotic response. Conclusive evidence for this paradigm, however, is lacking. In the present study, we used a genetic approach to address this issue directly. We show that lymphoblasts from Niemann-Pick patients, which have an inherited deficiency of acid sphingomyelinase activity, fail to respond to ionizing radiation with ceramide generation and apoptosis. These abnormalities are reversible upon restoration of acid sphingomyelinase activity by retroviral transfer of human acid sphingomyelinase cDNA. Acid sphingomyelinase knockout mice also expressed defects in radiation-induced ceramide generation and apoptosis in vivo. Comparison with p53 knockout mice revealed that acid sphingomyelinase-mediated apoptosis and p53-mediated apoptosis are likely distinct and independent. These genetic models provide definitive evidence for the involvement of acid sphingomyelinase in one form of stress-induced apoptosis.

<3>

Authors

Serebrovskaia TV. Oberenko OA. Guseva SA.

Title

[The relationship between respiratory system reactivity and neutrophil metabolism in hypoxia in persons subjected to ionizing radiation exposure]. [Russian]

Source

Radiatsionnaia Biologiia, Radioecologiia. 36(3):400-4, 1996 May-Jun.

Abstract

The group of 18 men exposed to radiation during amelioration work in the Chernobyl NPP was examined in the course of adaptation to intermittent hypoxia (rebreathing technique during 10 days of three daily 5-7 min sessions with 15 min break). The starting level of ventilatory response to hypoxic stimulus (HVR) did not differ from the one in persons living in non-contaminated areas. This hypoxic training (HT) caused the increase of HVR, activity of NADPH-oxidase and cationic protein content in neutrophils as well as various changes in myeloperoxidase activity. The correlation between respiration reactivity and deviations in neutrophil metabolism under HT was found.

<4>

Authors

Serebrovskaia ZA. Serebrovskaia TV. Afonina GB.

Title

[Chemiluminescence, blood lipid peroxidation and neutrophil activity during the hypoxic training of persons subjected to ionizing radiation exposure]. [Russian]

Source

Radiatsionnaia Biologiia, Radioecologiia. 36(3):394-9, 1996 May-Jun.

Abstract

Free radical processes and some indices of antibacterial defense system

have been examined in 29 male residents of Chernobyl area during adaptation to periods of intermittent hypoxia. 18 men (the experimental group) were exposed to normobaric isocapnic progressive hypoxia during 10 days of three daily 5-7 min sessions with 15 min breaks, and 11 men (control group) were exposed to air breathing. All subjects were divided into two subgroups with initial high (1) and low (2) level of blood chemiluminescence (ChL). Patients of the 1 subgroup were characterized with high oxygen-generated activity of neutrophils (OGA) and high malondialdehyde (MDA) concentration. After hypoxic training (HT) there was a decrease of spontaneous and initiated ChL and MDA. Patients of the 2 subgroup were characterised with low level both spontaneous and initiated ChL, low MDA concentration and low phagocytosing activity of neutrophils. After HT there was significant rise of initiated ChL and MDA concentration up to normal level with the increasing of neutrophil phagocytosing activity. We suggest that HT causes the normalizing effect on free radical processes in subjects who were exposed to radiation influences.

<5>

Authors

Barquinero JF. Barrios L. Caballin MR. Miro R. Ribas M. Subias A. Egozcue J.

Institution

Dpt. Biologia Animal, Biologia Vegetal i Ecologia, Facultat de Ciències, Universitat Autònoma de Barcelona, Bellaterra, Spain.

Title

Decreased sensitivity to the cytogenetic effects of bleomycin in individuals occupationally exposed to ionizing radiation.

Source

Mutation Research. 354(1):81-6, 1996 Jul 5.

Abstract

In the present work, 12 individuals occupationally exposed to ionizing radiation and 11 unexposed ones were studied to determine the cytogenetic effect of a challenge dose of bleomycin on their phytohemagglutinin stimulated lymphocytes. After bleomycin treatment, the frequencies of chromatid breaks and gaps were significantly lower in the exposed population ($p < 0.025$ for both types of chromatid alterations). These results could indicate that occupational exposure to ionizing radiation can induce an adaptive response that can be detected by a subsequent treatment with bleomycin.

<6>

Authors

Tedeschi B. Caporossi D. Vernole P. Padovani L. Mauro F.

Institution

Department of Public Health and Cell Biology, University of Rome Tor Vergata, Italy.

Title

Do human lymphocytes exposed to the fallout of the Chernobyl accident exhibit an adaptive response? III. Challenge with bleomycin in lymphocytes from children hit by the initial acute dose of ionizing radiation.

Source

Mutation Research. 354(1):77-80, 1996 Jul 5.

Abstract

In the present paper, we report data on the possible adaptive response, induced in vivo by exposure to ionizing radiation to a challenge treatment with the radiomimetic glycopeptide bleomycin (BLM). Lymphocytes from children living in Pripjat at the time of the Chernobyl accident, and thus hit by the initial acute dose of ionizing radiation, were treated for the last 5 h of culture with 0.004 U/ml BLM. Significantly lower chromosome damage was found only in lymphocytes from children who, independently of the initial acute exposure to ionizing radiation, still showed a ¹³⁷Cs internal contamination, due to persistent continuous exposure to low doses of radiation. The present results indicate that past exposure to acute high dose of ionizing radiation does not interfere with resistance to BLM which is related to internal contamination.

<7>

Authors

Carrier F. Bae I. Smith ML. Ayers DM. Fornace AJ Jr.

Institution

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carrier:Box-c.nih.gov

Title

Characterization of the GADD45 response to ionizing radiation in WI-L2-NS cells, a p53 mutant cell line.

Source

Mutation Research. 352(1-2):79-86, 1996 Jun 10.

Abstract

We have previously reported that WI-L2-NS, a human lymphoblastoid cell line, has very high basal levels of GADD45 mRNA and protein in spite of a p53 mutation at amino acid 237. Regardless of the amount of Gadd45 in this cell line, no growth suppression activity was detected. We report here that in WI-L2-NS, the mutated p53 protein adopts predominantly a wild type (wt) conformation and binds to the p53 binding site in the GADD45 third intron. In this cell line, the already high levels of mutated p53 protein can be induced further by ionizing radiation (IR) but the response of the p53 downstream effector genes is altered. Induction of GADD45 and CIP1/WAF1 is reduced compared to p53 wt cell lines but is still substantially higher than the average fold induction obtained from 39 p53 mutant cell lines. Induction of the MDM2 gene was not detected in WI-L2-NS following IR. The induction pattern of the three p53 effector genes by the alkylating agent methylmethane sulfonate (MMS) was also attenuated in WI-L2-NS cells. In TK6 cells, a WI-L2-NS sister cell line having a p53 wt genotype, the induction of the p53 downstream effectors is normal, i.e. induced, both at the protein and the mRNA levels. These results indicate that the DNA binding activity of the mutated p53 protein in WI-L2-NS might be responsible, at least in part, for the high basal levels of GADD45 but can not mediate the full induction of the p53 downstream effector genes. The reason(s) for the inability of Gadd45 to suppress growth in this cell

line remains however unknown.

<8>

Authors

Lankinen MH. Vilpo LM. Vilpo JA.

Institution

Department of Clinical Chemistry, Tampere University Hospital, Finland.

Title

UV- and gamma-irradiation-induced DNA single-strand breaks and their repair in human blood granulocytes and lymphocytes.

Source

Mutation Research. 352(1-2):31-8, 1996 Jun 10.

Abstract

Ionizing irradiation and UV-irradiation cause DNA damage. Ionizing irradiation induces single-strand breaks, much less abundantly double-strand breaks, alkali-labile sites, and various oxidized purines and pyrimidines. UV-irradiation, on the other hand, causes cyclobutane pyrimidine dimers, (6-4) photoproducts, and various monomeric base damages. The deposition of energy in DNA may result directly in single-strand breaks (predominant form after ionizing radiation), or the strand breaks may be generated during the repair process (predominant form after UV-irradiation). We investigated the formation and repair of DNA single-strand breaks in human blood granulocytes and lymphocytes by the single-cell gel electrophoresis or comet assay. The induction and repair of DNA lesions by gamma-irradiation was comparable in human blood granulocytes and lymphocytes. The finding is consistent with the expression of the pertinent base excision repair proteins in these cells. In contrast to gamma-irradiation, fewer single-strand breaks were observed immediately after UV-irradiation; the maximum number of breaks were seen when the cells were incubated for 30-60 min. After an incubation period of 150 min, a significant reduction of single-strand breaks was noted. It is conceivable that the first 30-60 min represented a period during which the incision-excision phase of nucleotide excision repair (NER) predominated. After that, strand joining was dominant, evidently representing the synthesis and ligation phase of NER. These results indicate that the approx. 30 different polypeptides required for complete NER are functional in these mature blood cells. This is the first demonstration of the expression of global NER in human granulocytes.

<9>

Authors

Metcalfe JA. Parkhill J. Campbell L. Stacey M. Biggs P. Byrd PJ. Taylor AM.

Institution

CRC Institute for Cancer Studies, Medical School, University of Birmingham, UK.

Title

Accelerated telomere shortening in ataxia telangiectasia.

Source

Nature Genetics. 13(3):350-3, 1996 Jul.

Abstract

Ataxia telangiectasia (AT) is characterized by neurological deterioration, immunodeficiency, spontaneous chromosomal instability, hypersensitivity to ionizing radiation, predisposition to cancer, particularly T cell leukaemia and lymphoma, and premature ageing. The most commonly observed defect affecting telomeres in humans is telomeric fusions, particularly in T lymphocytes in AT patients. Rarely, some tumour cells, like senescent cells, have dicentric chromosomes that may arise as a result of telomeric sequence loss. We show that the AT mutation in the homozygous state confers a predisposition to accelerated telomere shortening with increasing age in peripheral blood lymphocytes (PBLs), which may be linked to premature senescence. We also show that telomeric fusions are associated with large (> 90%) preleukaemic translocation clones in T cells. We propose that these fusions may result from a compound effect of accelerated telomere shortening, together with a growth advantage of cells in large clones which leads to further telomere loss. Fusions are not observed in leukaemic cells in these patients. There is no evidence that either accelerated telomere loss per se or telomeric fusions are important in tumourigenesis. Telomerase is present in both normal and AT lymphocytes and so neither telomere shortening nor telomeric fusions can be explained by the absence of telomerase.

<10>

Authors

Shmarov DA. Kozinets GI.

Title

[The cell cycle patterns of the hemopoietic cells under the action of ionizing radiation]. [Russian]

Source

Gematologiya i Transfuziologiya. 40(6):25-9, 1995 Nov-Dec.

Abstract

The analysis of changes in bone marrow cell cycle induced by ionising radiation in animals and humans in comparison with myelogram evidence on postradiation death of myelocaryocytes shows that radiation is responsible for pronounced dose-dependent shifts in cell cycle early after radiation prior to postradiation cell death. These phenomena are considered in light of new hypothesis on the existence of cell cycle regulation system and initiation of apoptosis at the cell level.

<11>

Authors

Amundson SA. Chen DJ.

Institution

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Title

Inverse dose-rate effect for mutation induction by gamma-rays in human lymphoblasts.

Source

International Journal of Radiation Biology. 69(5):555-63, 1996 May.

Abstract

In order to define further the effects of differences in recombinational proficiency on cell survival and mutation by ionizing radiation, we exposed the syngenic cell lines TK6 and WTK1 to continuous low dose-rate gamma-irradiation. We previously demonstrated that acute X-ray exposure results in lower survival and lower mutation induction at both the thymidine kinase (tk) and the hypoxanthine-guanine phosphoribosyltransferase (hprt) loci in TK6 cells compared with WTK1 cells. These differences were attributed in part to reduced levels of recombination in the TK6 line relative to WTK1. Using a low dose rate ¹³⁷Cs irradiator, we exposed asynchronous growing populations of these cells to gamma-rays at 14.3, 6.7 and 2.7 cGy/h. Both cell lines exhibited a dose-rate effect on survival. Compared with acute doses, the low dose-rates also protected against mutation induction at the hprt locus in WTK1, but protection was inversely related to dose-rate. There was also a slight inverse dose-rate effect in TK6, with mutation induction at the lowest dose-rate exceeding that at acute exposures.

<12>

Authors

Duchaud E. Ridet A. Stoppa-Lyonnet D. Janin N. Moustacchi E. Rosselli F.

Institution

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Title

Deregulated apoptosis in ataxia telangiectasia: association with clinical stigmata and radiosensitivity.

Source

Cancer Research. 56(6):1400-4, 1996 Mar 15.

Abstract

Ataxia telangiectasia (AT) is a recessive genetic disease featuring neurodegeneration, immunodeficiency, chromosomal instability, radiation hypersensitivity, and increased predisposition to cancer. Reduced or delayed induction of the tumor suppressor protein p53 after gamma-irradiation was reported. These characteristics may be compatible with an inability to correctly regulate apoptosis. We show here that AT lymphocytes and EBV-transformed lymphoblasts demonstrate a significantly higher level of spontaneous apoptosis, whereas ionizing radiation-induced apoptosis is reduced compared to normal cells. However, neither AT nor normal primary fibroblasts undergo apoptosis after irradiation. Consequently, we conclude that the radiosensitivity of the AT cells is not related to an increased apoptotic response. Finally, we show that SV40-transformed AT fibroblasts undergo gamma-ray-induced apoptosis, while SV40-transformed normal cells do not. This result raises the question of the physiological relevance of the latter cellular model with respect to the AT phenotype.

<13>

Authors

Hande MP. Boei JJ. Granath F. Natarajan AT.

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Department of Radiation Genetics and Chemical Mutagenesis, Leiden University, The Netherlands.

Title

Induction and persistence of cytogenetic damage in mouse splenocytes following whole-body X-irradiation analysed by fluorescence in situ hybridization. I. Dicentrics and translocations.

Source

International Journal of Radiation Biology. 69(4):437-46, 1996 Apr.

Abstract

Chromosome translocations (stable aberrations) can persist longer during cellular proliferation than dicentrics (unstable aberrations). It is important to know the kinetics of the elimination of dicentrics and to what extent translocations persist in an in vivo cell population after irradiation. The female Swiss mouse were used to study the induction and persistence of dicentrics and translocations in splenocytes up to 112 days after exposure to 2 Gy whole-body X-irradiation. Metaphase spreads at different time intervals were analyzed by fluorescence in situ hybridization (FISH) using chromosome-specific DNA libraries for chromosomes 1, 11 and 13. The frequencies of dicentrics and translocations appear to be equal immediately after irradiation. Frequencies of dicentrics decreased exponentially with time according to the relationship $D = ae(-kt)$. The rate of elimination was faster in the early period (days 0-14) than in the later period ($> \text{ or } = 14$ days). The frequency of translocations was constant in the period 0-7 days and then decreased linearly or exponentially. For the whole period, the trend is highly significant. As mouse chromosome painting probes are becoming available and by using FISH, an in vivo mouse model for the analysis of translocations has become feasible. As translocations are involved in carcinogenesis and genetic disorders, risk estimation for induction of translocations by ionizing radiation can be made with greater confidence and extrapolated to the human situation.

<14>

Authors

Uckun FM. Tuel-Ahlgren L. Waddick KG. Jun X. Jin J. Myers DE. Rowley RB. Burkhardt AL. Bolen JB.

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Title

Physical and functional interactions between Lyn and p34cdc2 kinases in irradiated human B-cell precursors.

Source

Journal of Biological Chemistry. 271(11):6389-97, 1996 Mar 15.

Abstract

Exposure of human B-cell precursors (BCP) to ionizing radiation results in cell cycle arrest at the G2-M checkpoint as a result of inhibitory tyrosine phosphorylation of p34cdc2. Here, we show that ionizing radiation promotes physical interactions between p34cdc2 and the Src

family protein-tyrosine kinase Lyn in the cytoplasm of human BCP leading to tyrosine phosphorylation of p34cdc2. Lyn kinase immunoprecipitated from lysates of irradiated BCP as well as a full-length glutathione S-transferase (GST)-Lyn fusion protein-phosphorylated recombinant human p34cdc2 on tyrosine 15. Furthermore, Lyn kinase physically associated with and tyrosine-phosphorylated p34cdc2 kinase in vivo when co-expressed in COS-7 cells. Binding experiments with truncated GST-Lyn fusion proteins suggested a functional role for the SH3 rather than the SH2 domain of Lyn in Lyn-p34cdc2 interactions in BCP. The first 27 residues of the unique amino-terminal domain of Lyn were also essential for the ability of GST-Lyn fusion proteins to bind to p34cdc2 from BCP lysates. Ionizing radiation failed to cause tyrosine phosphorylation of p34cdc2 or G2 arrest in Lyn kinase-deficient BCP, supporting an important role of Lyn kinase in radiation-induced G2 phase-specific cell cycle arrest. Our findings implicate Lyn as an important cytoplasmic suppressor of p34cdc2 function.

<15>

Authors

da Cruz AD. Curry J. Curado MP. Glickman BW.

Institution

Centre for Environmental Health, University of Victoria, British Columbia, Canada.

Title

Monitoring hprt mutant frequency over time in T-lymphocytes of people accidentally exposed to high doses of ionizing radiation.

Source

Environmental & Molecular Mutagenesis. 27(3):165-75, 1996.

Abstract

Modern technologies have provided the opportunity to monitor mutations in people in vivo. The subjects of this study were accidentally exposed to ¹³⁷Cesium in a radiological accident that occurred in September 1987 in Goiania, Brazil, during which more than 150 people received doses greater than 0.1 Gy and as high as 7 Gy. The objective of this study was to determine how long the hprt mutant T-cells in the peripheral blood contribute to mutant frequency by examining the time-course of the T-lymphocyte response to ionizing radiation. This report describes the results obtained over a period of 2.3 to 4.5 years subsequent to the accident, from 11 subjects with doses ranging from 1 to 7 Gy, and from nine control subjects selected from the same population. The mean In MF (+/- SE) of the control group was 2.5 (+/- 0.2) + In10(-6). The exposed group had a significantly increased mutant frequency; the mean In MF (+/- SE) were 3.3 (+/- 0.3) + In10(-6), 2.8 (+/- 0.2) + In10(-6), and 2.3 (+/- 0.2) + In10(-6), in the years 1990-1992 respectively. Based on the decline of mutant frequency and using Buckton's models [Buckton et al. (1967): Nature 214:470-473], we demonstrated that mutant T-cells have a short-term memory with a half-life of 2.1 years. This relatively short half-life limits the effective use of the hprt assay as the method of choice to monitor past exposure. The data also demonstrate a positive correlation with age, and an inverse correlation with plating efficiency.

<16>

Authors

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Title

Effects of low-dose (2 cGy) X-ray on cell-cycle kinetics and on induced mitotic delay in human lymphocyte.

Source

Mutation Research. 351(2):193-7, 1996 Apr 13.

Abstract

Experiments were carried out with human lymphocytes to test the effect of low-dosage X-ray irradiation (2 cGy) on cell-cycle kinetics and on the mitotic delay induced by the conditioning pretreatment alone or by a subsequent high dose of X-ray. All the tests were performed using lymphocytes from two donors who had previously displayed considerable differences in the interaction between a low and a high dose of ionizing radiation. A dose of 2 cGy led to significant variations in mitotic indices (MI) which differed for the two donors in relation to variations in the times of irradiation and fixation after stimulation with PHA. Moreover in one of the two donors 4-6 h after challenge the pretreated cultures have a higher MI than the controls; on the other hand, conditioning treatment alone induces in the other donor an extension of both G2 and of the time taken by cells in S at the time of challenge to reach mitosis. These findings could in the future provide some insight into the problem of the variability of the adaptive response in human lymphocytes.

<17>

Authors

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Title

Radiation-induced chromosomal aberrations among TENORM workers: among- and ilmenite-processing workers of Malaysia.

Source

Mutation Research. 351(2):157-61, 1996 Apr 13.

Abstract

The usefulness of peripheral human lymphocytes as a bioindicator for ionizing radiation effect was tested in a survey of Malaysian workers in two industries producing technologically enhanced naturally occurring radioactive material (TENORM). Workers in amang processing plants who have been with the plant for an average of 12.9 years and who were exposed to radioactive dust showed significantly higher frequencies of chromosomal aberration compared to control and even ilmenite-processing workers. Such frequency was not significantly different between workers in ilmenite-processing plant and control. The differences in duration of employment, occupational hygiene, together with the difference in the percentage of 'old' and 'new' aberrations among the groups sampled were

used to explain the high chromosomal aberration frequency among among workers. The presence of significantly high chromosome damage (dicentric and fragments) in workers who were chronically exposed to doses below 50 mSv per year or 20 mSv per year averaged over 5 years (ICRP, 1991) provided additional experimental data on the dose-effect relationship at these low-dose ranges. The results confirm the usefulness of using human lymphocytes as a bioindicator for chronic exposure to ionizing radiation and in cases where physical radiation detectors are not available.

<18>

Authors

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Title

Contrasting mechanisms of the myeloprotective effects of interleukin-1 against ionizing radiation and cytotoxic 5-fluorouracil.

Source

Radiation Research. 145(5):624-31, 1996 May.

Abstract

Pretreatment with a single dose of interleukin-1 (IL-1) counteracts the myelosuppressive effects of radiation. In contrast, multiple doses are required to protect against several cytoablative drugs, suggesting different mechanisms. We examined the possibility that myeloprotection is due to IL-1-induced cycling of primitive progenitor cells. First, we evaluated the effect of the time between administration of IL-1 and 5-fluorouracil (5-FU), which kills cycling cells but spares quiescent early progenitors, on their interaction. Pretreatment with a single dose of IL-1 resulted in the death of mice treated with 5-FU provided IL-1 was given 18 h, but not 4 or 48 h, prior to administration of sublethal doses of 5-FU. Second, evaluation of primitive hematopoietic progenitor cells, 13-day spleen colony-forming units (CFU-S) and CFU with high proliferative potential revealed that treatment with 5-FU 18 h after administration of IL-1 results in reduction of CFU-S by 98% and of CFU with high proliferative potential by 65%, but only a 7 and 10% reduction, respectively, at 48 h. Third, in contrast to protection from death by pretreatment with a single dose of IL-1 at 24 h, two injections of IL-1 at 72 and 24 h before irradiation abrogated such protection. Similarly, the toxicity of 5-FU to progenitor cells was reduced when two injections of IL-1 were administered 48 h apart. This correlates with the time of up-regulation in the bone marrow cells of TGF-beta. These findings suggest that, depending on the schedule of treatment, administration of IL-1 may result in cycling of primitive progenitors, to protect against radiation, and may cause inhibition of cycling to protect against chemotherapeutic drugs.

<19>

Authors

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Title

Modulation of radiation-induced chromosomal damage by inhibitors of DNA repair and flow cytometric analysis in ataxia telangiectasia cells with 'intermediate radiosensitivity'.

Source

Mutagenesis. 10(6):523-9, 1995 Nov.

Abstract

The relationship between repair processes and chromosomal aberrations and X-ray-induced cell cycle perturbations were investigated in ataxia telangiectasia (AT) cells with 'intermediate' (AT-INT) and 'classical' radiosensitivity. In the cytogenetic experiments, three AT-INT lymphoblastoid cell lines were X-irradiated in G2-phase and incubated in the presence of inhibitors of DNA polymerases alpha/delta/epsilon (cytosine arabinoside, aphidicolin, 10% v/v DMSO), ribonucleotide reductase (hydroxyurea) and presumed inhibitors of protein kinases (caffeine). Flow cytometric analysis was performed in cells harvested 20 h after irradiation and stained with either propidium iodide or antibody against 5-bromodeoxyuridine in order to investigate cell cycle distribution focusing on G2/Mphase accumulation. From our data it appears that: (i) chromosomal sensitivity to radiation in AT does not always reflect clinical features; (ii) the effects of DNA repair inhibitors are inversely correlated with chromosomal radiosensitivity; and (iii) radiation-induced G2/M phase accumulation is a feature of AT cells and not necessarily correlated with cellular and chromosomal sensitivity to ionizing radiation.

<20>

Authors

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Title

Haematopoietic growth factors in the treatment of therapeutic and accidental irradiation-induced bone marrow aplasia [see comments].
[Review]

Comments

Comment in: Int J Radiat Biol 1995 Oct;68(4):487-90

Source

International Journal of Radiation Biology. 67(2):103-17, 1995 Feb.

Abstract

Bone marrow aplasia is one of the main syndromes following a high dose accidental exposure of ionizing radiation. Although both transfusion and bone marrow transplantation have been used with some success since the first treatments of patients, other therapeutic strategies are needed. The strategies involving haematopoietic growth factors for the treatment of radiation victims have been explored in vivo mainly in animal models and

it is hoped that new therapeutic regimens will be elucidated from such approaches. The growth factors stimulate proliferation and/or differentiation of haematopoietic progenitor cells and possible stem cells. Furthermore, they act on the functions of mature cells. They now have specific uses in haematology, related to their role in the regulation of growth and differentiation of haematopoietic progenitor cells. The results of the clinical trials, performed with numerous patients and often randomized bring important clues about what to expect from growth factor therapy. Other factors are only entering the preclinical or clinical trials now. Although numerous in vitro or in vivo experiments suggest a benefit from their effects, their possible uses in therapy are still questionable. Some growth factors have already been used for the treatment of accidental radiation-induced aplasia and lessons have been learned from their medical management and follow-up. [References: 99]

<21>

Authors

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Title

Both in vitro and in vivo irradiation are associated with induction of macrophage-derived fibroblast growth factors.

Source

Clinical & Experimental Immunology. 103(1):67-73, 1996 Jan.

Abstract

Fibrosis in the lung directly underlying the field of irradiation is an almost universal long term sequelae of thoracic irradiation. It is assumed to represent the consequence of direct damage to local tissues and/or vascular endothelium by ionizing radiation. This view, however, is not in keeping with our current understanding of fibrotic processes, which suggest that growth factors for fibroblasts (including platelet-derived growth factor (PDGF), insulin-like growth factor I (IGF-I)) and cytokines stimulating collagen synthesis (notably transforming growth factor-beta) are largely responsible for this process. Since a major source of these factors is the macrophage, present in large numbers within the lung, it appeared possible that radiation-induced fibrosis might be mediated by similar mechanisms. Therefore, a study was designed to determine, first, whether in vitro irradiation of mononuclear phagocytes could induce the release of growth factors for fibroblasts. Second, we wished to ascertain whether these same growth factors might also be secreted by bronchoalveolar cells from humans who had undergone in vivo thoracic irradiation. The results of this study indicate that irradiation of a number of different types of mononuclear phagocytes resulted in the dose-dependent synthesis and release of several growth factors for fibroblasts, including PDGF, tumour factor-alpha (TNF-alpha) and IGF-I. Further, cells obtained by bronchoalveolar lavage from patients undergoing thoracic radiation spontaneously released PDGF following irradiation. These findings strongly support the contention that synthesis and release

of macrophage-derived growth factors for fibroblasts (particularly PDGF and IGF-I) occur after thoracic irradiation and play a significant role in the pathogenesis of irradiation-induced pulmonary fibrosis in humans.

<22>

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Title

8-Oxo-2'-deoxyguanosine level in lymphocytes DNA of cancer patients undergoing radiotherapy.

Source

Cancer Letters. 99(1):93-7, 1996 Jan 19.

Abstract

We analyzed the level of 8-oxo-2'-deoxyguanosine in lymphocytes DNA of cancer patients undergoing radiotherapy. The results of this work indicate that exposure of cancer patients to therapeutic doses of ionizing radiation causes significant increase of the amount of 8-oxo-dG in DNA isolated from their lymphocytes.

<23>

Authors

Unizhakov SV. L'vova GN. Chekova VV. Semiachkina AN. Baleva LS. Zasukhina GD. Kazantseva LZ.

Title

[Dna repair activity in children exposed to small doses of ionizing radiation as a result of the accident at the Chernobyl nuclear power station]. [Russian]

Source

Genetika. 31(10):1433-7, 1995 Oct.

Abstract

The repair activity of DNA was studied by variola vaccine virus reactivation and induced mutagenesis tests in the peripheral blood lymphocytes of children living in areas with an increased level of ionizing radiation due to breakdown at the Chernobyl' nuclear power station. A more profound repair disturbance was revealed in children living on strictly controlled territories and born after the disaster, compared to those born before it, and children living in areas where the radiation level does not exceed background values. The disturbances were characterized by increased induced mutagenesis and decreased reactivation of the variola vaccine virus. No changes in the degree of DNA repair synthesis were registered in any of the groups studied.

<24>

Authors

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Title

Follow up study of chromosome aberrations in lymphocytes in hospital workers occupationally exposed to low levels of ionizing radiation.

Source

Mutation Research. 335(3):245-51, 1995 Dec.

Abstract

In the present study we analyzed and followed up on the cytogenetic effects of low levels of ionizing X-radiation on hospital workers at 72 h cultures. Samples of peripheral blood were collected from 10 hospital workers exposed to 1.84 mSv/year, and from 10 non exposed individuals, who were screened simultaneously and used as controls. The chromosomes were prepared using standard techniques. After 12 months, we undertook a second evaluation, this time with exposure to the same workers of 1.67 mSv/year. We observed 100 metaphases per subject, and there was a high percentage of altered metaphases (29.2% in the first sample and 26% in the second samples) The chromosome analysis in the second mitotic division, show aberrations such as gaps, breaks and acentric fragments, as well as other alterations such as dicentrics and rings, as well as chromosome variants (double minutes) in the exposed workers vs. the controls, and the difference was statistically highly significant ($p < 0.001$). There is no statistically significant difference between the first sample of exposed workers with the second one ($p > 0.05$). The findings in this study are interesting, because the workers were exposed to doses well below the accepted standards for exposure to radiations. Because of these unusual findings, our results could have potentially major consequences on our views on standards of exposure to radiation.

<25>

Authors

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Title

Do human lymphocytes exposed to the fallout of the Chernobyl accident exhibit an adaptive response? 2. Challenge with bleomycin.

Source

Mutation Research. 332(1-2):39-44, 1995 Nov.

Abstract

The present study concerns the possible adaptive response, induced in vivo by a continuous exposure to ionizing radiations, to a challenge treatment with the radiomimetic glycopeptide bleomycin (BLM). Lymphocytes from children contaminated as a consequence of Chernobyl accident were treated for the last 5 h of culture with 2.5 micrograms/ml BLM. The induced chromosome damage was significantly lower than that found with the same treatment in lymphocytes from control children. This hyposensitivity to BLM was still present if, 1 h after the addition of the drug, inhibitors

of the enzymes involved in DNA repair, such as 3-aminobenzamide (2 mM), or aphidicolin (0.4 microM) or 3-dideoxythymidine (5 mM) were added to the cultures. The resistance to BLM in lymphocytes from contaminated children seems to be related to a mechanism upstream in respect to the activities of enzymes involved in the DNA repair and specifically linked to the action of this drug. This is consistent with the different response found when the cells were challenged with ionizing radiation in vitro, as reported in the accompanying paper (L. Padovani, L. et al. (1995) Mutation Res., this issue).

<26>

Authors

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Title

Do human lymphocytes exposed to the fallout of the Chernobyl accident exhibit an adaptive response? 1. Challenge with ionizing radiation.

Source

Mutation Research. 332(1-2):33-8, 1995 Nov.

Abstract

Several studies suggest that cells appear to become less susceptible to the induction of radiation damage, and in particular of chromosome and chromatid aberrations in short-term cultures of human lymphocytes, when a challenge exposure to ionizing radiation is preceded by a low 'adaptive' dose. Contradictory results have been reported on the conditions under which the phenomenon can be evidenced. In the present work, circulating lymphocytes of 13 children contaminated from the fallout after the Chernobyl accident were tested for their capability to exhibit an adaptive response in experiments in which the challenge dose was administered to stimulated lymphocytes in the S-G2 phase. Furthermore, the possible influence of 3-aminobenzamide, an inhibitor of poly(ADP-ribose) polymerase, was also investigated. Our results indicate that, at least in the instance of the end-point here used (chromosome and chromatid aberrations, the former resulting possibly from the Cs burden), human lymphocytes, chronically exposed to low doses from fallout, do not exhibit any decreased susceptibility to ionizing radiation. However, as reported in the accompanying paper, the same samples appear to show an 'adaptive' response when exposed to a challenge treatment with bleomycin (B. Tedeschi et al., 1995, this issue).

<27>

Authors

Vasil'eva IM. Unzhakov SV. Meliksetova IA. Zasukhina GD. Semiachkina AN. Kazantseva LZ.

Title

[The adaptive response in the lymphocytes of children from an area with an elevated background of ionizing radiation]. [Russian]

Source

Radiatsionnaia Biologiia, Radioecologiia. 35(5):662-5, 1995 Sep-Oct.

Abstract

The ability to form the adaptive response in lymphocytes of 23 children, exposed to small radiation doses as the result of Chernobyl accident was studied by hydroxylapatite chromatography of cell lysates. No correlation was found between the ability to form adaptive response and received radiation dose.

<28>

Authors

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Title

The single cell gel electrophoresis/comet assay: a potential tool for detecting radiation-induced DNA damage in humans. [Review]

Source

Stem Cells. 13 Suppl 1:207-14, 1995 May.

Abstract

This review evaluates the applicability of the single cell gel (SCG)/comet assay as a tool for the biomonitoring of individuals accidentally, environmentally or occupationally exposed to ionizing radiation. This technique detects single-strand DNA breaks, alkali-labile damage, incomplete excision repair sites and DNA:DNA crosslinking at the level of the individual cell. The advantages of this technique include: (a) data are collected at the level of the individual cell, providing information on the intercellular distribution of damage and repair; (b) only small numbers of cells are required (i.e., only a few thousand); (c) virtually any eukaryotic cell population can be used; and (d) the assay is relatively sensitive (detection limit of 5 cGy gamma rays in human lymphocytes), simple and cost effective. What the assay lacks is specificity for radiation-induced DNA damage. However, the possibility of identifying types of DNA damage specific for ionizing radiation in selected subtypes of cells may be feasible. While additional research is required before the SCG assay can readily be applied as a standard biomonitoring tool for exposure to ionizing radiation, the data collected thus far support a conclusion that such research is clearly warranted. [References: 12]

<29>

Authors

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Title

DNA sequence analysis of HPRT- mutants induced in human lymphoblastoid cells adapted to ionizing radiation.

Source

Radiation Research. 144(2):181-9, 1995 Nov.

Abstract

Radioadaptation to the mutagenic effect of ionizing radiation by pre-exposure of human cells to a low dose has been shown to decrease the proportion of HPRT- mutants of the deletion type. To determine whether point mutations would be affected by the adaptive treatment, the molecular nature of mutations induced after exposure to low, high or low plus high doses was established. DNA sequencing of 38 point mutants which still expressed mRNA was performed using reverse transcription/polymerase chain reaction amplification. Under all conditions, base substitutions were the most common mutational event (range 72-80%), the remainder being frameshift and small deletions. The types and proportions of base changes did not appear to be differentially modified. A clustering of mutations was observed in exon 8, independently of the radiation protocol. About 40% of the mutants exhibited incorrect splicing of mRNA. The lack of striking modifications between the different molecular spectra of point mutations suggests that the low-dose pre-exposure does not affect the production and/or the processing of lesions leading to point mutations. Thus the highly significant effect triggered by the low dose is the preferential reduction of deletion-type mutations. In view of the actual small data set, definitive conclusions will be drawn only when our observations are confirmed or can be generalized to human endogenous loci other than the HPRT locus, which is particularly prone to the recovery of deletion-type mutations.

<30>

Authors

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Title

Assessment of two protocols for the human lymphocyte cytokinesis-blocked micronucleus assay.

Source

Mutagenesis. 10(4):375-7, 1995 Jul.

Abstract

This study indicated that by adding cytochalasin B (6 micrograms/ml) at 24 h, the lymphocyte culture time for micronucleus (MN) assay could be shortened to 64 h. In both unirradiated and ex-vivo irradiated (2 Gy) lymphocytes from three populations, we found that the differences in MN yield obtained by our modified cytokinesis-blocked time frame and that recommended by Fenech and Morley (1985) were insignificant ($P = 0.66-0.87$). We believe that the shorter assay time may enhance the applicability of MN assay for the rapid assessment of ionizing radiation overexposures.

<31>

Authors

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Title

Sizing highly fragmented DNA in individual apoptotic cells using the comet assay and a DNA crosslinking agent.

Source

Experimental Cell Research. 221(1):19-26, 1995 Nov.

Abstract

TK6 human B lymphoblast cells exposed to ionizing radiation undergo apoptosis in a time and dose-dependent manner. The resulting highly fragmented DNA is easily detected using the comet assay, a sensitive microscopic gel electrophoresis method capable of measuring DNA strand breaks in individual cells. The degree of DNA fragmentation may be indicative of different stages in the fragmentation process, responses to different agents, and/or cell type-dependent differences. In an effort to determine the number of breaks present in each apoptotic cell, we first applied a DNA-crosslinking agent, mechlorethamine, to TK6 cells containing a known number of DNA double-strand breaks produced by X rays. As the concentration of mechlorethamine increased, crosslinked DNA was less able to migrate during gel electrophoresis. Exposure of TK6 cells to 5 microM mechlorethamine prior to irradiation with 20 Gy was sufficient to "hide" the presence of these breaks by preventing DNA from migrating during electrophoresis. However, in apoptotic TK6 cells, it was necessary to apply a dose of mechlorethamine several times higher in order to produce a similar degree of inhibition of DNA migration. Calibrations using either the alkaline or neutral comet assays indicate that the average DNA fragment size in apoptotic TK6 cells is about 50 kb. Even in cells containing only 10-20% of the original amount of DNA, the remaining fragments still averaged about 50 kb, indicating that fragmentation to much smaller sizes occurs in some parts of the genome before others. When Chinese hamster V79 cells were exposed to hyperthermia (45 degrees C for 20 min), necrosis was induced over a period of several days. The size of DNA fragments in these cells was considerably larger (200-400 kb) and heterogeneity in appearance of comets was larger than observed for TK6 cells. This crosslinking method may be useful in discriminating cells dying by apoptosis from cells damaged or dying by other mechanisms.

<32>

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Title

Oxidation of thymine to 5-formyluracil in DNA: mechanisms of formation, structural implications, and base excision by human cell free extracts.

Source

Biochemistry. 34(45):14758-64, 1995 Nov 14.

Abstract

Oxidative agents produce several different types of base modifications in

DNA, and only a few of these have been properly characterized with respect to mechanisms of formation and biological implications. We have established a procedure using neutral thermal hydrolysis and reverse phase high-performance liquid chromatography to determine the content of the oxidation product 5-formyluracil (5-foU) in DNA. With this method, it is shown that 5-foU residues are formed with high frequency from thymine by quinone-sensitized UV-A photooxidation. Since 5-foU is also induced by ionizing radiation, it appears to be formed under conditions where thymidine radical cations are generated and react with molecular oxygen. It was previously shown that 5-foU is formed directly from [methyl-3H]thymine residues in radioactively labeled DNA by two consecutive transmutations of 3H to 3He. The theoretical basis for the kinetics of such conversion is presented in this paper, and the calculated yields are confirmed experimentally by measuring the content of 5-foU in [methyl-3H]thymine-labeled DNA aged for different time periods. Such DNA contains virtually only 5-(hydroxymethyl)uracil and 5-foU, apart from normal bases, and is therefore very useful for the investigation of repair enzyme activities involved in the repair of 5-foU-containing DNA. Using this substrate, a DNA glycosylase activity was identified in human cell extracts for the removal of 5-foU.(ABSTRACT TRUNCATED AT 250 WORDS)

<33>

Authors

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Title

Human cDNA clones that modify radiomimetic sensitivity of
ataxia-telangiectasia (group A) cells.

Source

Somatic Cell & Molecular Genetics. 21(2):99-111, 1995 Mar.

Abstract

Genes responsible for genetic diseases with increased sensitivity to DNA-damaging agents can be identified using complementation cloning. This strategy is based on in vitro complementation of the cellular sensitivity by gene transfer. Ataxia-telangiectasia (A-T) is a multisystem autosomal recessive disorder involving cellular sensitivity to ionizing radiation and radiomimetic drugs. A-T is genetically heterogeneous, with four complementation groups. We attempted to identify cDNA clones that modify the radiomimetic sensitivity of A-T cells assigned to complementation group [A-T(A)]. The cells were transfected with human cDNA libraries cloned in episomal vectors, and various protocols of radiomimetic selection were applied. Thirteen cDNAs rescued from survivor cells were found to confer various degrees of radiomimetic resistance to A-T(A) cells upon repeated introduction, and one of them also partially influenced another feature of the A-T phenotype, radioresistant DNA synthesis. None of the clones mapped to the A-T locus on chromosome 11q22-23. Nine of the clones were derived from known genes, some of which are involved in

cellular stress responses. We concluded that a number of different genes, not necessarily associated with A-T, can influence the response of A-T cells to radiomimetic drugs, and hence the complementation cloning approach may be less applicable to A-T than to other diseases involving abnormal processing of DNA damage.

<34>

Authors

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Title

Variability in adaptive response to low dose radiation in human blood lymphocytes: consistent results from chromosome aberrations and micronuclei.

Source

Mutation Research. 348(1):45-50, 1995 Sep.

Abstract

The frequencies of chromosome aberrations and micronuclei were evaluated to assess the induction of adaptive response to low dose ionizing radiation in each of the blood samples collected from eight different individuals. Following stimulation with phytohemagglutinin, the cells were exposed to an adaptive dose of 1 cGy X-radiation at 24 hours and a challenge dose of 150 cGy gamma radiation at 48 hours. Lymphocytes were fixed at 54 hours to examine the incidence of chromosome aberrations and at 72 hours to examine the frequency of micronuclei in cytokinesis-blocked binucleated cells. Lymphocytes from five donors, i.e., "responders", exhibited the induction of adaptive response; their lymphocytes, which were pre-treated with 1 cGy had significantly fewer chromosome aberrations and micronuclei induced by the challenge dose of 150 cGy gamma radiation, as compared to the cells which did not receive the pre-treatment with 1 cGy. Such an induction of adaptive response was not observed in the remaining three donors, i.e., "non-responders"; the incidence of chromosome aberrations and micronuclei induced by the challenge dose of 150 cGy was not significantly different between the cells which were pre-exposed and un-exposed to 1 cGy. In all eight individuals, there was a strong positive correlation between the incidence of chromosome aberrations and micronuclei. Hence, whether or not an individual is a 'responder' or 'non-responder' could be assessed using either chromosome aberrations or micronuclei as the end-point. The overall pattern of response confirms the heterogeneity in adaptive response between individuals to ionizing radiation, which may in part be genetically controlled. Because of the simplicity of the technique and rapid assessment of the binucleated cells, we suggest the use of the micronucleus test as an alternative procedure in large scale population studies related to the adaptive response.

<35>

Authors

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Title

scid cells are deficient in Ku and replication protein A phosphorylation by the DNA-dependent protein kinase.

Source

Molecular & Cellular Biology. 15(10):5700-6, 1995 Oct.

Abstract

Cell mutants of the Ku nuclear DNA-binding complex are ionizing radiation sensitive and show V(D)J recombination defects. Ku binds and activates a catalytic subunit of DNA-dependent protein kinase (DNA-PK), although the substrates for DNA-PK are unknown. We found that scid cell extracts were deficient in Ku phosphorylation by DNA-PK. Human chromosome 8-complemented scid cells, containing the human DNA-PK catalytic subunit, restored Ku phosphorylation. Likewise, radiation-induced RPA hyperphosphorylation was not completed in scid cells compared with control or chromosome 8-reconstituted cells. Thus, the inactivity of DNA-PK is likely responsible for the repair and recombination defects in scid cells.

<36>

Authors

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Title

Delayed chromosomal instability in human T-lymphocyte clones exposed to ionizing radiation.

Source

International Journal of Radiation Biology. 68(3):245-55, 1995 Sep.

Abstract

Recent studies have demonstrated that cells which survive alpha-particle and X-ray exposure may show chromosomal instability, i.e. they continue to develop chromosomal aberrations at an increased frequency for many division cycles after the exposure. To characterize this delayed response, we carried out repeated karyotype analyses of X-irradiated T-lymphocytes during clonal expansion in vitro. Human peripheral blood lymphocytes were obtained from a healthy donor and exposed to 3-Gy X-irradiation. Cell survival, estimated by a cell cloning assay, was 5%. Non-irradiated, control cells were studied in parallel. Monoclonal cell lines were established using the T-cell cloning procedure. G-band karyotype analyses were carried out at several intervals during expansion of the clones for up to 2 months. The irradiated clones did not differ from the control clones with regard to growth rate or cytometric DNA profile.

Non-irradiated cell clones showed a normal karyotype, with < 10% of sporadic, non-clonal chromosome and chromatid breaks. In the irradiated clones, the karyotypes showed different (sub)clonal chromosome rearrangements, which developed successively during the cultivation time. In addition to these karyotypic abnormalities, > 20% of the cells in these

clones had sporadic, non-clonal chromosome aberrations, and there was a tendency of increasing frequency of such aberrations by length of cultivation. Thus, two types of radiation-induced chromosomal instability were observed; (sub)clonal karyotypic abnormalities and sporadic, non-clonal chromosome aberrations. The frequency and kinetics by which these alterations occur in the progeny of X-irradiated T-cells suggest that they arise through different pathways, and argue against their causation by mutation or persistent DNA damage.

<37>

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Title

Trolox inhibits apoptosis in irradiated MOLT-4 lymphocytes.

Source

FASEB Journal. 9(13):1345-54, 1995 Oct.

Abstract

MOLT-4 cells, a human lymphocytic leukemia line, undergo apoptosis in response to a variety of stimuli, including exposure to ionizing radiation. Very little is known of the molecular mechanisms by which radiation induces apoptosis. Morphology changes and chromatin cleavage at internucleosomal sites accompany apoptosis in these cells. We found that trolox, a water-soluble derivative of vitamin E that penetrates biomembranes and protects mammalian cells from oxidative damage, blocks DNA fragmentation in irradiated MOLT-4 cells. Levels of DNA fragmentation in cells not treated with trolox were directly related to both radiation dose and time postirradiation. Preincubation of cells with trolox or incubation with trolox only during irradiation did not protect cells. A 4 h postirradiation incubation with trolox was sufficient to completely block fragmentation measured at 24 h, indicating the processes triggered by radiation to induce DNA fragmentation occur early after irradiation. Removal of cells from trolox earlier than 4 h resulted in progressively less inhibition. Trolox preserves the integrity of irradiated cells as judged by increased viability and thymidine incorporation. Radiation induces an uptake of extracellular Ca^{2+} into MOLT-4 cells that was blocked by a postirradiation incubation with trolox. These results suggest that membrane-associated oxidations triggered by radiation are responsible for radiation-induced apoptosis in MOLT-4 cells.

<38>

Authors

Grinevich IuA. Martynenko SV.

Title

[Endocrine function of the thymus and ionizing radiation]. [Review]
[Russian]

Source

Radiatsionnaia Biologiia, Radioecologiia. 35(3):391-404, 1995 May-Jun.

Abstract

It is shown that external as well as incorporated radiation inhibit the endocrine function of the thymus in the result of the direct and indirect effects. Postradiation deficiency of thymic hormones plays a significant role in pathogenesis of functional disorders in the immunity system. Immunocorrection with thymic agents is the most effective method when the mechanism of inhibition of thymic hormonal function are taken into account. [References: 126]

<39>

Authors

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Title

Validation of chromosome painting. II. A detailed analysis of aberrations following high doses of ionizing radiation in vitro.

Source

International Journal of Radiation Biology. 67(1):19-28, 1995 Jan.

Abstract

Fluorescence in situ hybridization with chromosome-specific composite DNA probes ('chromosome painting') is useful for quantifying radiation-induced cytogenetic damage. Recently we showed that the frequency of aberrations observed with painting is similar to that seen with conventional cytogenetic methods, at least at doses of ≤ 2 Gy. Above this dose, however, the agreement was not as good. We describe here the results of additional work designed to clarify our earlier findings, and provide a detailed analysis of the type and frequency of aberrations induced in human peripheral lymphocytes following acute exposure to ^{137}Cs at doses of 0 (unexposed control), 1, 2, 3 and 4 Gy. The newly-developed nomenclature for chromosome aberrations detected by painting (Protocol for Aberration Identification and Nomenclature Terminology, 'PAINT') was used to classify all aberrations. Our results indicate that if the guidelines of the PAINT system are followed, chromosome painting can provide meaningful biodosimetry at high doses, and that the observation of complicated rearrangements not only does not interfere with dose estimation, but also the information provided by these exchanges can be easily broken down into the component aberrations and included in the dose estimate. We also show that the inequality between translocations and dicentrics that we previously observed can be explained by an excess of one class of translocated chromosomes, specifically those in which the centromere is from an unpainted chromosome. Translocated chromosomes in which the centromere is painted were found to occur at a frequency equal to dicentrics. These results should help clarify the use of painting for radiation biodosimetry by improving our understanding of the frequencies of various types of stable aberrations observed shortly after exposure. This will improve our ability to perform meaningful biodosimetry long after the frequencies of unstable aberrations have ceased to be informative.

<40>

Authors

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Title

Application of a multiple fixation regimen to study the adaptive response to ionizing radiation in lymphocytes of two human donors.

Source

Mutation Research. 326(1):109-16, 1995 Jan.

Abstract

The majority of experiments studying the adaptive response using chromosomal aberrations have been performed with proliferating lymphocytes. It is known that lymphocytes have variable cell cycle transit times and it has been pointed out that in such cases aberration scores obtained from a single harvest are not very meaningful because cells harvested together in metaphase at any one time after irradiation were in different parts of the cell cycle at the time of irradiation. The scored sample will thus always contain a mixture of cells having different radiosensitivities and any variations of cell proliferation will influence the aberration score. In order to get a more representative aberration score a multiple fixation regimen was applied to lymphocytes of two human donors. Cells receiving the adapting + challenging and the challenging dose were fixed at three intervals after the challenge. In lymphocytes of donor 1 no adaptive response was seen at any fixation time in two experiments. In lymphocytes of donor 2, however, a reduction of aberration frequencies was seen, but at different fixation times in the two experiments. In a third experiment, no adaptive response was detected. It is concluded that the response observed at some fixation times in lymphocytes of donor 2 is rather a result of some phenomenon associated with variations of cell cycle kinetics than of induced radiation resistance.

<41>

Authors

Pilinskaia MA. Dybskii SS. Znaevskaia IA. Dybskaia EB.

Title

[The dynamic course of the mutation process in human peripheral blood lymphocytes under conditions of exposure to low levels of ionizing radiation]. [Russian]

Source

Tsitologiia i Genetika. 29(3):56-61, 1995 May-Jun.

Abstract

In seven groups of children living in the areas contaminated by nuclides a significant cytogenetic effect has been detected. The degree of its expression (integral and specific markers) was similar and did not correlate with the density of contamination by radionuclides.

<42>

Authors

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Title

Potential genotoxic risk related to simultaneous exposure to radionuclides and cytostatics.

Source

American Journal of Industrial Medicine. 27(6):871-6, 1995 Jun.

Abstract

The aim of the study was to evaluate the genotoxic risk to medical personnel concurrently exposed to ionizing radiation and antineoplastics, using changes in their lymphocyte cell genome as a bioindicator. The study comprised 12 female nurses employed in the nuclear medicine hospital department and an equal number of matched controls. For each examinee, both conventional structural chromosomal aberration analysis and sister chromatid exchange test (SCE) were carried out. According to Student's t-test, neither the incidence of structural chromosomal aberrations ($p > 0.6$) nor the mean SCE-frequency rate ($p > 0.3$) were significantly increased among the exposed subjects. Nevertheless, in those exposed, irreparable chromosomal damages and wide SCE-ranges were observed. Such findings suggest the possibility of genotoxic implications of concurrent occupational exposure to ionizing radiation and antineoplastic drugs.

<43>

Authors

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Title

Increased induction of apoptosis in mononuclear cells of a glucose-6-phosphate dehydrogenase deficient patient.

Source

Journal of Molecular Medicine. 73(1):47-9, 1995 Jan.

Abstract

Glucose-6-phosphate dehydrogenase (G6PD) deficiency belongs to the most common human disorders of metabolism. In affected patients generation of free radicals causes life-threatening hemolytic crises, for example, after consumption of certain drugs and foods or after infections. Rather than erythrocytes we analyzed mononuclear white blood cells of a patient suffering from G6PD deficiency with respect to their ability to enter apoptosis after treatment with daunorubicin, ionizing radiation, or dexamethasone. The induction of apoptosis was increased in G6PD-deficient cells compared to cells from eight normal donors. In parallel, the glutathione content of mononuclear cells from the G6PD-deficient patient was significantly decreased. While in affected patients decreased life span of erythrocytes damaged by oxidative stress has long been recognized as the mechanism underlying hemolysis, peripheral leukocytes have not received similar attention. Induction of apoptosis is a relatively complex process that has been linked to cellular glutathione content. This is the

first report investigating G6PD deficiency and apoptosis.

<44>

Authors

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Title

Influence of five methylsulphonyl PCB congeners on frequency of
micronucleated cells in cultured human lymphocytes by cytokinesis block
method.

Source

Fukuoka Igaku Zasshi - Fukuoka Acta Medica. 86(5):190-6, 1995 May.

Abstract

The lungs and blood of Yusho patients and healthy Japanese people have already been contaminated with methylsulphonyl polychlorinated biphenyls (MSF-PCBs) at relatively high concentration. Therefore, we should give due attention to their biological and toxicological effects to man. In this study, in order to mainly evaluate non-S-dependent genotoxicity of five MSF-PCB congeners, namely, 3-MSF-4, 5, 3', 4'-tetrachlorobiphenyl (TCB), 3-MSF-4, 5, 2', 3'-TCB, 3-MSF-2, 5, 2', 4', 5'-pentachlorobiphenyl (PenCB), 4-MSF-2, 5, 2', 3', 4'-PenCB and 4-MSF-2, 5, 2', 3', 5', 6'-hexachlorobiphenyl (HCB). We have examined their effects on the induction of micronucleated cells, which has been frequently used to estimate the dose of ionizing radiation and truly radiomimetic, non-S-dependent, clastogens, in cultured human lymphocytes in the absence or presence of 2, 3, 4, 7, 8-pentachlorodibenzofuran (PenCDF), 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (TCDD) or 3, 4, 5, 3', 4'-pentachlorobiphenyl (Co-PenCB). The following results were obtained. 1) 4×10^{-5} M 7, 8-benzoflavone (ANF) significantly enhanced the frequency of micronucleated cells and all of the five MSF-PCB congeners failed to induce the formation of micronucleated cells at doses of 5.2 to 9.6 ppm, which were about 35,000 times higher than the concentrations in the lungs and adipose tissue of healthy Japanese people.(ABSTRACT TRUNCATED AT 250 WORDS)

<45>

Authors

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Title

The in vivo inhibitory effect of ionizing radiation on Fc and C3 receptors on mouse granulocytes in bone marrow cells and in mouse and human monocytes in peripheral blood, and the radioprotective potential of human albumin.

Source

Archives of Medical Research. 26(2):163-8, 1995 Summer.

Abstract

Dose-dependent damage to Fc and C3 receptors on leukocytes by ionizing radiation was obtained with monocytes in peripheral blood leukocytes (M-PBL) as well as granulocytes in bone marrow cells (G-BMC) from total body irradiated mice. G-BMC from these mice took more than 4 months after irradiation to present normal levels of Fc and C3 receptors. Evidence is provided that albumin can protect Fc and C3 receptors from the damage of ionizing radiation in a dose-dependent way, and that this radioprotection can last for several days after albumin administration. In general, M-PBL from cervical cancer patients under radiotherapy maintained normal values of C3 receptors as compared to non-albumin-treated patients where an important decrease was found.

<46>

Authors

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Title

Defective induction of stress-activated protein kinase activity in ataxia-telangiectasia cells exposed to ionizing radiation.

Source

Cancer Research. 55(15):3242-5, 1995 Aug 1.

Abstract

The activity of stress-activated protein (SAP) kinase is stimulated by diverse agents such as tumor necrosis factor, UV light, and protein synthesis inhibitors. The present study demonstrates that ionizing radiation (IR) exposure is also associated with the induction of SAP kinase activity. Cells derived from patients with ataxia-telangiectasia (A-T) are characterized by hypersensitivity to IR. In this study, we demonstrate that IR-induced activation of SAP kinase is defective in A-T cells. In contrast, exposure of A-T cells to UV light or anisomycin results in the induction of SAP kinase activity. These findings indicate that IR-induced signals involved in SAP kinase activation are defective in A-T cells.

<47>

Authors

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Title

Correction of chromosomal instability and sensitivity to diverse mutagens by a cloned cDNA of the XRCC3 DNA repair gene.

Source

Proceedings of the National Academy of Sciences of the United States of

America. 92(14):6354-8, 1995 Jul 3.

Abstract

The mutagen-sensitive CHO line irs1SF was previously isolated on the basis of hypersensitivity to ionizing radiation and was found to be chromosomally unstable as well as cross-sensitive to diverse kinds of DNA-damaging agents. The analysis of somatic cell hybrids formed between irs1SF and human lymphocytes implicated a human gene (defined as XRCC3; x-ray repair cross-complementing), which partially restored mitomycin C resistance to the mutant. A functional cDNA that confers mitomycin C resistance was transferred to irs1SF cells by transforming them with an expression cDNA library and obtaining primary and secondary transformants. Functional cDNA clones were recovered from a cosmid library prepared from a secondary transformant. Transformants also showed partial correction of sensitivity to cisplatin and gamma-rays, efficient correction of chromosomal instability, and substantially improved plating efficiency and growth rate. The XRCC3 cDNA insert is approximately 2.5 kb and detects an approximately 3.0-kb mRNA on Northern blots. The cDNA was mapped by fluorescence in situ hybridization to human chromosome 14q32.3, which was consistent with the chromosome concordance data of two independent hybrid clone panels.

<48>

Authors

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Title

Mild hyperthermia can induce adaptation to cytogenetic damage caused by subsequent X irradiation.

Source

Radiation Research. 143(1):26-33, 1995 Jul.

Abstract

Many low-level environmental agents are able to induce an increased resistance to subsequent mutagenic effects induced by ionizing radiation. In this paper, an induced cytogenetic adaptation to radiation in human lymphocytes was studied with mild hyperthermia as the adaptive treatment and compared with that induced by low-dose radiation. We found that this adaptation could be induced not only in PHA-stimulated human lymphocytes (at 14, 38 and 42 h after addition of PHA), but also in unstimulated G0-phase cells (before addition of PHA) by mild hyperthermia (41 degrees C for 1 h) as well as 50 mGy X rays. When the two adaptive treatments were combined, no additive effects on the magnitude of the adaptation induced were observed, suggesting that low-dose radiation and hyperthermia may share one mechanism of induction of adaptation to cytogenetic damage. Some mechanisms which may be involved in the induction of adaptation to cytogenetic damage by low-dose radiation are discussed and compared with the effects of mild hyperthermia in inducing thermotolerance and radioresistance.

<49>

Authors

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Title

Relationships between G1 arrest and stability of the p53 and p21Cip1/Waf1 proteins following gamma-irradiation of human lymphoma cells.

Source

Cancer Research. 55(11):2387-93, 1995 Jun 1.

Abstract

We investigated temporal relationships between ionizing radiation-induced G1 arrest and induction of the p53-regulated genes GADD45, CIP1/WAF1, and MDM2 in a series of Burkitt's lymphoma and lymphoblastoid cell lines that differed in p53 gene status. Emphasis was placed on characterization of the EW36 cell line, which despite expressing wild-type p53 genes, is defective in G1 arrest following gamma-irradiation (P. M. O'Connor et al., Cancer Res., 53: 4776-4780, 1993). Induction of CIP1/WAF1, GADD45, and to a lesser extent MDM2 mRNA was observed in all wild-type p53 lines that arrested in G1. Cell lines that contained only mutant p53 genes or were heterozygous for p53 mutations failed to induce appreciable levels of these p53-regulated transcripts and did not arrest in G1. G1 arrest in the wild-type p53 cell line WMN was more prolonged than elevation of CIP1/WAF1, GADD45, or MDM2 transcripts, suggesting that G1 arrest duration must be dependent upon stability of these newly synthesized proteins. In agreement, we found that p21Cip1/Waf1, a potent inhibitor of G1-S phase cyclin-dependent kinases, was maintained at elevated levels throughout the period that WMN cells remained arrested in G1. EW36 cells exhibited normal induction of CIP1/WAF1, GADD45, and MDM2 mRNA following gamma-irradiation, suggesting that the defect in G1 arrest must reside downstream of p53 transactivation. Investigations into the stability of p53 and p21Cip1/Waf1 revealed that EW36 cells failed to maintain elevated levels of these proteins following irradiation. p53 levels decreased within 4 h of irradiation, and p21Cip1/Waf1 levels decreased shortly after the normal decline of CIP1/WAF1 mRNA levels. Degradation of p21Cip1/Waf1 coincided with the escape of EW36 cells from G1 arrest. Our studies suggest that p21Cip1/Waf1 stability may determine G1 arrest duration and that premature degradation of this protein could provide an alternative route to subversion of the G1 checkpoint in cancer cells.

<50>

Authors

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Title

A role for mismatch repair in production of chromosome aberrations by methylating agents in human cells.

Source

Mutation Research. 346(4):231-45, 1995 Apr.

Abstract

We have shown previously that certain alkylation products, or alkylation derived lesions, which induce chromosome aberrations (abs) persist for at least two cell cycles in Chinese hamster ovary cells. The increase in abs in the second cycle after treatment contrasts with the classical observation of reduction in ab yield with successive mitoses following ionizing radiation. Here we present evidence that processing of lesions by mismatch repair is a mechanism for ab induction by methylating agents. Our previous studies implicated O6-methylguanine (O6MeG) as an important lesion in induction of abs, particularly in the second cell cycle after treatment. In the absence of repair of O6MeG by alkylguanine DNA alkyltransferase (AGT), new abs were induced in the second cycle after treatment with e.g. methylnitronitrosoguanidine (MNNG) and methylnitrosourea (MNU). Thus, we hypothesized that abs were produced not by O6MeG or its repair in the first S phase, but by subsequent processing of the lesions. We suggested that after replication proceeded past the O6MeG lesion in the first S phase, inserting an incorrect base on the newly synthesized strand, recognition and repair by mismatch repair in the second S phase led to a chromosome ab. Here we used MT1 cells, a human lymphoblastoid cell line that has a defect in strand-specific mismatch repair. MT1 cells are alkylation tolerant and have a mutator phenotype, compared with their parent line, TK6; both MT1 and TK6 cells lack AGT so do not remove the methyl group from O6MeG. While the initial levels of abs at the first metaphase were similar in MT1 and TK6 cells, ab levels in MT1 cells were greatly reduced in the second and third cell cycles following treatment with MNNG, dimethylnitrosamine and MNU, in contrast with the parent TK6 cells, which had more abs in the second cell cycle than in the first. This supports the hypothesis that repair of mismatched base pairs involving O6MeG is one mechanism for induction of chromosome abs. In contrast to the difference in response to methylating agents between TK6 cells and mismatch repair-deficient MT1 cells, the profile of ab induction by an ethylating agent, ethylnitrosourea, was similar in MT1 cells to those for TK6 cells and CHO cells.

<51>

Authors

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Title

A modified immunochemical assay for the fast detection of DNA damage in human white blood cells.

Source

Mutation Research. 334(3):347-56, 1995 Jun.

Abstract

An immunochemical assay to detect damage in DNA has been modified to a so-called sandwich ELISA. With this assay DNA damages can be detected that give rise to a certain level of single-strandedness in DNA of white blood

cells during partial unwinding of cellular DNA under alkaline conditions. The modified method includes the following steps: incubation of alkali-treated whole blood in the wells of microtiter plates precoated with antibody directed against single-stranded DNA (ssDNA), which results in selective binding of ssDNA, and the subsequent detection of bound ssDNA by incubation with anti-ssDNA antibody alkaline phosphatase conjugate. With this method the amount of damage induced by ionizing radiation in DNA in cells of human blood can be detected within 1 h, after doses as low as 0.2 Gy. The precoating of microtiter plates with anti-ssDNA antibody enables the detection of ssDNA fragments directly in alkali-treated blood samples, isolation of the nucleated cells from the blood is not necessary. Because the DNA is released somewhat faster from lymphocytes than from granulocytes upon alkali treatment, it even appeared possible to discriminate between the effect of the radiation on these cell types in the same blood sample. The method is also applicable to other cell types that can be obtained in suspension.

<52>

Authors

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Title

Absence of radiation-induced G1 arrest in two closely related human lymphoblast cell lines that differ in p53 status.

Source

Journal of Biological Chemistry. 270(19):11033-6, 1995 May 12.

Abstract

In order to examine more precisely the role of p53 in the activation of the G1/S checkpoint by ionizing radiation, we examined two human lymphoblast cell lines derived from the same donor. The TK6 line had a doubling time of 12.2 h and expressed wild type p53, while the WTK1 line had a doubling time of 12.7 h and expressed mutant p53. The two lines differ significantly in their susceptibility to radiation-induced cell killing and apoptosis. Cells were examined by flow cytometry at regular intervals from 0 to 12 h after irradiation with two different doses designed to yield equivalent survival levels in both cell lines. In some experiments, cells were incubated with colcemid to block them in the first postirradiation mitosis and prevent contamination of the flow cytometric profiles with second cycle cells. There was no significant difference between the two cell lines in the progression of irradiated cells out of G1 and into the S and G2 phases of the cell cycle. In particular, there was no evidence for a prolonged arrest in G1 in the TK6 cell line expressing wild type p53. Furthermore, expression of the p53 downstream genes WAF1/CIP1 and RB appeared normal in TK6 cells. These results suggest that factors other than those in the p53 signal transduction pathway alone may be required to activate the G1/S checkpoint in irradiated human cells and that apoptosis and G1 arrest may utilize different pathways.

<53>

Authors

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Title

Chromosomal damage in workers occupationally exposed to chronic low level ionizing radiation.

Source

Toxicology Letters. 76(2):113-7, 1995 Mar.

Abstract

Chromosomal aberrations were evaluated in cultures of peripheral lymphocytes from subjects working in diagnostic X-ray and nuclear medicine areas, exposed to electromagnetic ionizing radiation and particulate ionizing emissions, respectively. A 4-fold increase in the level of chromosomal aberrations was found between the exposed and control groups without qualitative or quantitative cytogenetic differences between X-rays and nuclear medicine-exposed workers. Results are discussed in view of the early damage detection from chronic exposures particularly related to biological controls, hygienic improvements and overwork in a developing country.

<54>

Authors

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Title

The scid factor on human chromosome 8 restores V(D)J recombination in addition to double-strand break repair.

Source

Cancer Research. 55(8):1774-9, 1995 Apr 15.

Abstract

The murine severe combined immune deficiency mutation (scid) is characterized by a lack of B- and T-lymphoid cells due to a defect in lymphoid V(D)J recombination. Moreover, defective rejoining of DNA double-strand breaks (dsb) in scid cells also results in a marked increase in sensitivity to ionizing radiation. Recently, the putative human homologue of the murine scid gene locus, HYRC1, was assigned to human chromosome 8q11, based on the radiation sensitivity of scid cells as compared to scid:human cell hybrids carrying portions of human chromosome 8. Given the precedent (e.g., ataxia-telangiectasia) for genes other than the affected one being able to complement radiation defects, we were interested in determining if the V(D)J recombination defect was also corrected by the HYRC1 locus. The V(D)J recombination analysis using extrachromosomal DNA substrates in control scid cells (SC3VA2) versus complemented cells (RD13B2) indicates that the radiation sensitivity-complemented cells (RD13B2) are also fully complemented for the V(D)J recombination reaction, whereas the control (uncomplemented)

cells (SC3VA2) fail to carry out V(D)J recombination normally. Slightly over 60% of the radiation-induced dsb are rejoined even in scid cells, and this alternative pathway is temperature sensitive. Only the remaining 30-35% of dsb require the introduction of the HYRC1 locus, and this pathway is not temperature sensitive. This merely partial contribution of the scid factor to the repair process suggests the presence of another pathway of dsb repair. Our results indicate that the HYRC1 locus, assigned to human chromosome 8q11, encodes the scid factor, which is involved in all V(D)J recombination coding joint formation and in 30-35% of dsb repair by the temperature-resistant pathway.

<55>

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Title

Protection from radiation-induced chromosomal aberrations by the nitroxide Tempol.

Source

Cancer. 75(9):2323-7, 1995 May 1.

Abstract

BACKGROUND. The nitroxide Tempol (4-hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl) is a stable, free radical that exhibits protection from ionizing radiation damage and from oxidative stress mediated through exposure of cells to superoxide or hydrogen peroxide. Radiation protection has been observed in both in vivo and in vitro models. To understand the mechanism of Tempol-mediated radioprotection better, the production of radiation-induced chromosome aberrations was evaluated. This study analyzed Tempol-mediated radioprotection of human peripheral blood lymphocytes (PBLs). **METHODS.** Peripheral blood lymphocytes were exposed to control (0mM), 10 mM (Tp10), and 50 mM (Tp50) concentrations of Tempol for 20 minutes before irradiation with 0, 150, 300, and 450 cGy. One quarter ml whole blood was cultured in F12 medium and phytohemagglutinin at 37 degrees C for 49, 54, 59, and 64 hours. Colcemide was added to each sample for the last 5 hours before harvest. Cells were harvested, treated with hypotonic solution, and fixed before dropping on cold clean slides. Mitotic indices and frequency of dicentric, ring, and triradial chromosomal aberrations were determined at 1000x magnification for each treatment group at each collection point. **RESULTS.** Treatment of cells with Tempol alone did not induce the chromosomal aberration frequency above that for unirradiated controls. Radiation dose response curves for total chromosome aberration production revealed radioprotection for Tempol treatment for both 10 and 50 mM exposures. Tempol protection factors (assessed at 0.2 aberrations/cell level) for Tp 10 and Tp 50 were 2.2 and 2.8, respectively. **CONCLUSIONS.** Tempol protects against radiation-induced chromosome aberrations in human PBLs. This finding is consistent with and lends support to previous studies in which Tempol was reported to enhance cell survival and reduce

radiation-induced DNA double strand breaks.

<56>

Authors

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Title

Flow cytometric analysis of micronuclei in the CD2+/- subpopulation of
human lymphocytes enriched by magnetic separation.

Source

International Journal of Radiation Biology. 67(2):193-202, 1995 Feb.

Abstract

An improved flow cytometric method for the scoring of micronuclei in human lymphocytes irradiated in vitro is presented. Because, especially in cultivated human lymphocytes, unspecific DNA-containing debris from dying cells can influence the measured frequency of micronuclei, a preselection of CD2 + population was performed before preparation of the suspension of micronuclei and nuclei. Magnetic separation using anti-CD2 antibody-conjugated magnetic beads were used for this purpose. The results obtained by this improved flow cytometric technique were compared with results obtained by microscopic scoring using the CB technique. No correlation was found when the individual values in unirradiated controls were compared, due mainly to the presence of DNA-containing particles from fragmented cell nuclei and other unspecific debris. The averaged data from nine dose-effect curves simultaneously analysed by both techniques showed a linear-quadratic dose dependence with alpha and beta's that were similar for flow cytometry and for microscopic scoring. Only the constant term was higher for the flow cytometric results. A correlation between both techniques applied to individual data at doses > 0.2 Gy could also be demonstrated. It is concluded that a dose estimation of man exposed to low doses of ionizing radiation can at present not be improved by the flow cytometric technique.

<57>

Authors

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Title

Mutational spectrum of X-ray induced TK- human cell mutants.

Source

Carcinogenesis. 16(2):267-75, 1995 Feb.

Abstract

Mutations induced by ionizing radiation have historically elicited significant public concern. However, only a limited database of ionizing radiation-induced point mutations is available, particularly at endogenous human cell loci. Here, we report the mutational spectrum for 184 X-ray

induced TK- mutants derived from TK6 human lymphoblasts. This report represents the first large scale utilization of the tk locus for investigation of mutational specificity at the DNA sequence level. Rapid, single nucleotide sequencing assays at frameshift polymorphism sites in tk exons 4 and 7 were used to partition TK- mutants into two groups: 126 were attributed to either partial gene deletion or to loss of heterozygosity, and DNA sequence alterations were identified for 51. X-ray-induced point mutations included all classes of transitions and transversions, tandem base substitutions, frameshifts, small deletions and a small duplication. The distribution within tk was characterized by clustering at some sites. Twelve TK- point mutations, including five entirely within the coding sequence in exons 3 and 4, resulted in aberrant splicing of the tk transcript. The spectrum of X-ray-induced point mutations was found to be highly reproducible when TK- mutations were compared with HPRT- mutations in TK6. A statistically significant decrease in transitions ($P = 0.04$) was observed in the combined data set as compared to the spontaneous background. These findings suggest a reproducible pattern which may be utilized in recognizing radiation-induced mutations at other loci of interest.

<58>

Authors

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Title

Chromosome aberrations produced by radiation: the relationship between excess acentric fragments and dicentrics.

Source

Radiation Research. 141(2):136-52, 1995 Feb.

Abstract

Most chromosome aberrations produced by ionizing radiation develop from DNA double-strand breaks (DSBs). Published data on the yield and variance of excess acentric fragments after in vitro irradiation of human lymphocytes were compared with corresponding data on dicentrics. At low LET the number of excess acentric fragments is about 60% of the number of dicentrics, independent of dose and perhaps of dose rate, suggesting that dicentrics and excess acentric fragments arise from similar kinetics rather than from fundamentally different reactions. Only a weak dependence of the ratio on LET is observed. These results are quantified using generalizations of models for pairwise DSB interactions suggested by Brewen and Brock based on data for marsupial cells. By allowing singly incomplete and some "doubly incomplete" exchanges, the models can also account for the experimental observation that the dispersion for excess acentric fragments, a measure of cell-to-cell variance, is systematically larger than the dispersion for dicentrics. Numerical estimates of an incompleteness parameter are derived.

<59>

Authors

Lavin MF. Khanna KK. Beamish H. Teale B. Hobson K. Watters D.

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Title

Defect in radiation signal transduction in ataxia-telangiectasia.

Source

International Journal of Radiation Biology. 66(6 Suppl):S151-6, 1994 Dec.

Abstract

Exposure of mammalian cells to ionizing radiation causes a delay in progression through the cycle at several checkpoints. Cells from patients with ataxia-telangiectasia (A-T) ignore these checkpoint controls postirradiation. The tumour suppressor gene product p53 plays a key role at the G1/S checkpoint preventing the progression of cells into S phase. The induction of p53 by radiation is reduced and/or delayed in A-T cells, which appears to account for the failure of delay at the G1/S checkpoint. We have investigated further this defect in radiation signal transduction in A-T. While the p53 response was defective after radiation, agents that interfered with cell cycle progression such as mimosine, aphidicolin and deprivation of serum led to a normal p53 response in A-T cells. None of these agents caused breaks in DNA, as determined by pulse-field gel electrophoresis, in order to elicit the response. Since this pathway is mediated by protein kinases, we investigated the activity of several of these enzymes in control and A-T cells. Ca²⁺-dependent and -independent protein kinase C activities were increased by radiation to the same extent in the two cell types, a variety of serine/threonine protein kinase activities were approximately the same and anti-tyrosine antibodies failed to reveal any differences in protein phosphorylation between A-T and control cells. It is not evident what is the nature of the defect in signal transduction in A-T cells. However, it is clear that the p53 response is normal in these cells after exposure to some agents and it is mediated through protein kinase C or another serine/threonine kinase.

<60>

Authors

Kodama Y. Kushiro J. Hirai Y. Kusunoki Y. Nakamura N. Akiyama M. Awa AA.

Institution

Department of Genetics, Radiation Effects Research Foundation, Hiroshima, Japan.

Title

Frequent involvement of visible chromosomal deletion in X-ray-induced mutants at the HLA-A locus in human T-lymphocytes.

Source

Mutation Research. 309(1):63-72, 1994 Aug 1.

Abstract

Mutant T-lymphocytes at the HLA-A locus were isolated using a recently developed flow-cytometric assay either immediately after drawing blood (in vivo mutants) or after X-irradiation in vitro. Mutants were subsequently

propagated clonally for cytogenetic and molecular analyses. Among the 38 in vivo mutants, none contained an abnormal chromosome 6 on which the HLA-A locus resides (6p21.3). In contrast, mutants recovered after in vitro irradiation frequently carried abnormalities in the short arm of chromosome 6: 11/19 and 5/5 independent mutants for the 1-Gy and 2-Gy groups, respectively. Characteristically, the majority of the aberrations were deletions, commonly involving chromosome 6p21-p23. Because chromosomal deletions involving the selected gene are rare among radiation-induced mutants at the hypoxanthine phosphoribosyltransferase (chromosome X) and thymidine kinase (chromosome 17) loci, the HLA-A locus can be considered as highly prone to chromosomal deletions after radiation exposure. It is generally believed that ionizing radiation randomly breaks DNA, and the higher frequency of chromosomal deletions at the HLA-A locus is unlikely to be due to preferential induction but more likely to the better survivability of the deletion-bearing mutants. Consequently, the results suggest that the human genome is quite heterogeneous with regard to the survivability of cells bearing a chromosomal deletion including different loci.

<61>

Authors

Scarfi MR. Lioi MB. Zeni O. Franceschetti G. Franceschi C. Bersani F.

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Title

Lack of chromosomal aberration and micronucleus induction in human lymphocytes exposed to pulsed magnetic fields.

Source

Mutation Research. 306(2):129-33, 1994 Apr 15.

Abstract

We exposed human peripheral blood lymphocyte cultures to 50 Hz pulsed magnetic fields (PMFs) in order to evaluate a possible genotoxic effect of such non-ionizing radiation. The genotoxic effect was evaluated in terms of both micronucleus (MN) induction and classical chromosomal aberrations (CA); the mitotic index (MI) was also calculated. Khalil and Qassem (1991) found chromosomal and chromatid breaks and mitotic delay in human lymphocytes exposed for 24, 48 and 72 h to a field with characteristics similar to those used in our laboratory. These data are in contrast with our results previously reported in terms of MN induction using the cytokinesis block method (Scarfi et al., 1991). In this study lymphocytes from five healthy human donors were examined with the above mentioned tests. No genotoxic effects and increased MI were found in exposed samples compared to the control ones, in agreement with our previous results.

<62>

Authors

Carbonari M. Cibati M. Cherchi M. Sbarigia D. Pesce AM. Dell'Anna L. Modica A. Fiorilli M.

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Title

Detection and characterization of apoptotic peripheral blood lymphocytes in human immunodeficiency virus infection and cancer chemotherapy by a novel flow immunocytometric method.

Source

Blood. 83(5):1268-77, 1994 Mar 1.

Abstract

We have developed a quantitative and sensitive flow cytometric method for the detection of human apoptotic lymphocytes that, unlike previously described assays, allows their identification in mixed populations of peripheral blood leukocytes as well as their immunophenotyping. Apoptotic lymphocytes are identified on the basis of peculiar light scatter changes, reflecting their smaller size and their modified nucleus/cytoplasm organization, and of the decreased expression of surface CD45 molecules. Based on these criteria, apoptotic lymphocytes generated by exposure to ionizing radiation can be easily distinguished from viable cells and from necrotic lymphocytes generated by treatment with antibody and complement. Using this assay, we reappraised the phenomenon of the in vitro apoptosis of lymphocytes from patients with human immunodeficiency virus (HIV) infection. Lymphocytes from HIV patients, unlike those from normal HIV-negative subjects, undergo apoptosis upon simple in vitro culture. We found that the percentages of lymphocytes undergoing apoptosis were significantly higher in patients with low CD4 cell counts ($< 400/\mu\text{mL}$) than in patients at earlier stages (> 400 CD4 cells/ μmL). However, phenotypic analysis disclosed that apoptotic lymphocytes generated in these cultures were mostly CD8⁺ T cells and CD19⁺ B cells. Thus, in contrast to what has been previously suggested, the phenomenon of in vitro lymphocyte apoptosis might not be pathogenetically related to the depletion of CD4⁺ T cells in acquired immunodeficiency syndrome. Nevertheless, it might represent an useful marker of disease progression. Our assay allows the analysis of unfractionated peripheral blood leukocytes and thus the identification of apoptotic lymphocytes circulating in vivo. Apoptotic lymphocytes could indeed be detected in the circulation of a patient with cancer shortly after high-dose cytotoxic chemotherapy. By contrast, no apoptotic lymphocytes could be detected in vivo in patients with early or advanced HIV infection.

<63>

Authors

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Title

Glycolaldehyde causes DNA-protein crosslinks: a new aspect of ethylene oxide genotoxicity.

Source

Mutation Research. 304(2):229-34, 1994 Jan 16.

Abstract

After in vitro incubation of human peripheral mononuclear blood cells with glycolaldehyde (a putative metabolite of ethylene oxide) for 2 h at 37

degrees C, a dose-dependent increase in DNA crosslinks was observed in a dose range between 1 and 10 mM using the alkaline filter elution technique. The elution rate of mononuclear blood cells after treatment with ionizing radiation (600 cGy) was reduced more than 5-fold if cells were incubated with 10 mM glycolaldehyde for 2 h. After treatment with proteinase K DNA crosslinks were no longer detected in cells incubated with glycolaldehyde. Therefore the crosslinks produced by glycolaldehyde could clearly be identified as DNA-protein crosslinks. Additionally glycolaldehyde induced DNA single-strand breaks in a dose range between 1 and 10 mM. The elution rate of mononuclear blood cells was increased about 18-fold if cells were incubated with 5 mM glycolaldehyde for 2 h using an elution procedure with proteinase K. In vitro incubation of mononuclear cells with ethylene oxide for 2 h at 37 degrees resulted in a dose-dependent increase in DNA single-strand breaks between 0.5 and 10 mM ethylene oxide. Moreover, a time-dependent increase in DNA single-strand breaks after incubation with 1.5 mM ethylene oxide was observed with an increased number of single-strand breaks already detectable after 15 min and a maximum level which was detected after 2 h of incubation. However, no DNA-DNA or DNA-protein crosslinks could be detected although a wide concentration range and many different incubation times were tested. Therefore DNA crosslinks, for which evidence was found in mononuclear blood cells of humans occupationally exposed to ethylene oxide, are possibly generated by glycolaldehyde, a putative intermediate in the metabolism of ethylene oxide to glycolic acid.

<64>

Authors

Cregan SP. Boreham DR. Walker PR. Brown DL. Mitchel RE.

Institution

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Title

Modification of radiation-induced apoptosis in radiation- or hyperthermia-adapted human lymphocytes.

Source

Biochemistry & Cell Biology. 72(11-12):475-82, 1994 Nov-Dec.

Abstract

We have investigated the influence of the cellular adaptive response to ionizing radiation on radiation-induced apoptosis in human cells. The adaptive response is believed to be a protective mechanism that confers resistance to the detrimental effects of ionizing radiation and that can be induced by different agents, including hyperthermia and radiation. We have used fluorescence analysis of DNA unwinding (FADU) to assay the induction of apoptosis in human peripheral blood lymphocytes by ionizing radiation. Using the FADU assay, we have observed the initial radiation-induced DNA damage, its subsequent disappearance due to enzymatic repair, and its time- and dose-dependent reappearance. We believe this reappearance of DNA damage to be indicative of the DNA fragmentation event associated with apoptosis. This interpretation has been supported at the individual cell level using an in situ terminal

deoxynucleotidyl transferase (TDT) assay (Apoptag, Oncor Inc.), which detects the 3'-hydroxyl ends of fragmented DNA, and by fluorescence analysis of nuclear morphology in Hoechst 33258 stained cells. Pretreatment of cells with low-dose gamma-radiation (0.1 Gy) or mild hyperthermia (40 degrees C for 30 min) altered the extent of radiation-induced (3 Gy) apoptosis. Both pretreatments sensitized lymphocytes to become apoptotic after the 3-Gy radiation exposure. This sensitization may represent an adaptive response mechanism that reduces the risk that genetically damaged cells will proliferate. The ability to modify the probability of radiation-induced apoptosis may lower the cancer risk from a radiation exposure.

<65>

Authors

Ivashkevych OA. Kochnieva OM. Chumak AA. Bohdanovych LV.

Title

[The significance of the hypoxic factor in adaptation to the action of ionizing radiation as a result of the accident at the Chernobyl Atomic Electric Power Station]. [Ukrainian]

Source

Vrachebnoe Delo. (9-12):46-50, 1994 Sep-Dec.

Abstract

Data are presented from cytochemical study of the neutrophil myeloperoxidase oxygen dependent enzymes and lymphocyte succinate dehydrogenase in the peripheral blood of 2169 persons subjected to follow-ups of many kinds, at year 7 and 8 after the Chernobyl accident. By comparison with early time periods, the process of normalization of the measured values has been found to be the case, with SDG returning to normal earlier than MPO. There was an increase in the number of individuals with reduced MPO activity and stable percentage of those demonstrating increased SDG activity (30-42% versus 12%). Significance of the adaptation process in the time course of changes of the values measured is discussed along with role of hypoxic factor in adaptation to the ionizing irradiation exposure after the Chernobyl accident.

<66>

Authors

Baraboi VA. Oliinik SA. Khmielievs'kyi IuV.

Title

[Prooxidant link of oxidative homeostasis under low doses of ionizing radiation of low intensity]. [Review] [Ukrainian]

Source

Ukrainskii Biokhimicheskii Zhurnal. 66(3):3-16, 1994 May-Jun.

Abstract

Peculiarities of the processes of lipids peroxidation under effect of ionizing radiation in small doses and its low intensity have been considered. Data from literature concerning the threshold doses of lipids peroxidation activation have been generalized. [References: 98]

<67>

Authors

Nagoev B.S.

Title

[Change in functional and metabolic activity of leukocytes and content of serum immunoglobulins of donor blood exposed to gamma radiation].
[Russian]

Source

Gematologiya i Transfuziologiya. 39(4):29-32, 1994 Jul-Aug.

Abstract

Changes in functional-metabolic activity of leukocytes and in donor serum immunoglobulin level in exposure to gamma radiation. B.S. Nagoev. Kabardin-Balkar University, Nalchik. The study of 40 samples of blood after 1-4 days of storage revealed a moderate significant reduction in concentrations of cation protein, in myeloperoxidase activity. In exposure to gamma radiation, there appeared dose- and intensity-related shifts in the blood elements morphology, inhibition of myeloperoxidase, in the content of leukocyte cation protein, serum immunoglobulins. These alterations in white blood morphological picture, inhibition of functional-metabolic activity of leukocytes and immunoglobulin unbalance during gamma radiation of isolated blood explain depression of immunobiological characteristics of the body in extreme conditions, particularly, the lack of antibacterial defense as a result of ionizing radiation.

<68>

Authors

Verhaegen F. Vral A. Seuntjens J. Schipper NW. de Ridder L. Thierens H.

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Title

Scoring of radiation-induced micronuclei in cytokinesis-blocked human lymphocytes by automated image analysis.

Source

Cytometry. 17(2):119-27, 1994 Oct 1.

Abstract

The micronucleus assay in human lymphocytes is, at present, frequently used to assess chromosomal damage caused by ionizing radiation or mutagens. Manual scoring of micronuclei (MN) by trained personnel is very time-consuming, tiring work, and the results depend on subjective interpretation of scoring criteria. More objective scoring can be accomplished only if the test can be automated. Furthermore, an automated system allows scoring of large numbers of cells, thereby increasing the statistical significance of the results. This is of special importance for screening programs for low doses of chromosome-damaging agents. In this paper, the first results of our effort to automate the micronucleus assay with an image-analysis system are represented. The method we used is described in detail, and the results are compared to those of other groups. Our system is able to detect 88% of the binucleated lymphocytes on

the slides. The procedure consists of a fully automated localization of binucleated cells and counting of the MN within these cells, followed by a simple and fast manual operation in which the false positives are removed. Preliminary measurements for blood samples irradiated with a dose of 1 Gy X-rays indicate that the automated system can find 89% +/- 12% of the micronuclei within the binucleated cells compared to a manual screening.

<69>

Authors

Chernoguz LS. Kupchinskaia EG.

Title

[The immune system indices of hypertension patients exposed to ionizing radiation]. [Russian]

Source

Vrachebnoe Delo. (5-6):97-9, 1994 May-Jun.

Abstract

We studied immunologic status in patients with stage II hypertensive disease (HD): there were 92 Kievans and 46 subjects living in the area with excessive radiation within a 30-km radius of the Chernobyl Nuclear Power Plant; control group comprised 20 apparently healthy men (donors of the city station of blood transfusion). In HD patients the T-lymphocyte count was found to be reduced as was the content of T-suppressors and T-helpers, the activity of the B-immune system tending to be on the increase. Suppression of the T-lymphocyte suppressive function and elevation of the immunoglobulin G content result in an accelerated formation of circulating immune complexes, this indicating evolution of disturbances in immune complexes and an influence being exerted on the development of vascular affections and progression of atherosclerosis being promoted in these patients. Changes in the immune system tended to be more pronounced in st. II HB patients residing in the area with abnormal radiation than they were in the same category of patients--inhabitants of Kiev--this being supposedly a reason for disease progression in them.

<70>

Authors

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Department of Medical Biology, Medical Faculty, Safarik University, Kosice.

Title

Adaptive response to ionizing radiation in normal and aneuploid human lymphocytes.

Source

Folia Biologica. 40(3):119-23, 1994.

Abstract

The ability to induce an adaptive response by low doses of gamma rays was studied in normal and trisomic lymphocytes (47, XX or XY, +21). The results indicate the presence of an adaptive response in lymphocytes of 3 normal donors, but in lymphocytes of 5 donors with trisomy 21 no

significant adaptive response after irradiation with a low dose of gamma rays was found. There was similar chromosomal radiosensitivity in normal and trisomic lymphocytes (47, XX or XY, +21) irradiated with 1.50 Gy at the 48th hour after stimulation.

<71>

Authors

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Title

[Detection of heterozygotes for ataxia telangiectasia using sensitivity to ionizing radiation]. [Spanish]

Source

Revista Alergia Mexico. 41(4):98-102, 1994 Jul-Aug.

Abstract

Recent research have demonstrated that homozygotic and heterozygotic patients with ataxia telangiectasia (AT) show chromosomal rupture. Taking in consideration this characteristic, a study was designed, inducing chromosomal breaks in granulocytes from patients with AT, and heterozygotic carriers of AT compared with a group of healthy individuals. The number of chromosomic ruptures induced by 14 doses of radiation at 125 KV and 125 mA, was measured in all of them. Results suggest significant differences in the number of chromosomal structural alterations induced by radiation in granulocytes from heterozygotic carriers of AT, similar to structural alterations in lymphocytes from patients with AT. It is demonstrated that these alterations occur preferentially in one group C chromosome, both in homozygotic and heterozygotic patients with AT.

<72>

Authors

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Institution

Chemistry Department, Faculty of Natural Sciences, Ben Gurion University of the Negev, Beer-Sheva, Israel.

Title

Radiation damage to the erythrocyte membrane: the effects of medium and cell concentrations.

Source

Free Radical Research. 21(3):135-46, 1994 Sep.

Abstract

Human erythrocytes suspended in plasma, or in phosphate buffered saline (PBS), were exposed to ionizing radiation. Potassium leakage from irradiated erythrocytes is significantly higher in PBS than in plasma. The potassium leakage decreases when PBS is gradually replaced by plasma. These findings suggest that some of the plasma constituents have radioprotective properties. The potassium leakage per cell is independent of the hematocrit, Hct. The potassium leakage is attributed to the

formation of radiation defects in the membrane. Analysis of the effect of radiation dose, plasma and cell concentrations on the product of the number and surface area of the radiation defects indicates that the radiation damage is mainly due to the direct formation of free radicals in the cell membrane. The radioprotective effect of plasma is attributed to surface reactions of these free radicals with plasma constituents adsorbed on the membrane.

<73>

Authors

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Title

Ionizing radiation increases endothelial and epithelial cell production of influenza virus and leukocyte adherence.

Source

Journal of Immunology. 153(11):5222-9, 1994 Dec 1.

Abstract

To characterize the effect of ^{60}Co gamma radiation on cell-cell and pathogen-cell interactions, the adherence of undifferentiated HL-60 cells to HUVEC monolayers was tested in the absence and presence of LPS or influenza virus type A. Basal HL-60 cell adherence to uninfected HUVEC monolayers ($3.0 \pm 1.6\%$, $n = 30$) was not altered when HUVECs were exposed to 1- to 10-Gy gamma irradiation 4 to 72 h before the adhesion assay. LPS treatment of HUVEC monolayers (0.5 microgram/ml, 4 h) produced a 6.9-fold increase in adherence that was not altered by previous irradiation. However, when HUVEC monolayers were subjected to 1-10 Gy 41 h before influenza virus infection (10^6 pfu/ml) for 7 h, virus-induced adherence was enhanced in a dose-dependent manner. Increased virus hemagglutinin (HA) protein expression mediated the radiation-induced adherence for the following reasons: 1) HA Ag increases paralleled increases in leukocyte adherence. 2) Northern blot analysis demonstrated a time-dependent increase in mRNA HA levels. 3) Anti-HA blocked HL-60 cell adherence to irradiated and virus-infected HUVEC monolayers. These changes were associated with an increased virus titer yield and virus-induced HUVEC killing. In contrast, cytotoxicity produced by vesicular stomatitis virus, which unlike influenza virus replicates cytoplasmically, was not altered by radiation in HUVECs. In related studies, the canine kidney epithelial (MDCK) cell line showed a similar increased influenza virus production after gamma radiation, indicating that the radiation-induced increase in production of influenza virus is not cell-specific and probably involves a nuclear mechanism.

<74>

Authors

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Title

Ionizing radiation induces apoptotic cell death in human TcR-gamma/delta+ T and natural killer cells without detectable p53 protein.

Source

European Journal of Immunology. 24(11):2914-7, 1994 Nov.

Abstract

The p53 tumor suppressor gene has been shown to be involved in programmed cell death, apoptosis, in murine immature thymocytes after treatment with ionizing radiation. Ionizing radiation also induces apoptosis in peripheral mature lymphocytes. In this work, we investigated the p53 participation in radiation-induced apoptosis in human peripheral blood lymphocytes (PBL) subpopulations. Exposure to gamma-irradiation resulted in an appreciable induction of apoptotic cell death in TcR-alpha/beta+ (CD4+ and CD8+) T cells, TcR-gamma/delta+ T cells, B cells and natural killer (NK) cells, as assessed by DNA fragmentation as well as the morphological characteristics. Importantly, it was found that there was a marked difference among PBL subpopulations as regards the induction of p53 protein by gamma-irradiation. Similar to previous observations for murine thymocytes, p53 induction in TcR-alpha/beta+ T cells and B cells after gamma-irradiation was evident by Western blot analysis. Radiation-induced apoptosis in TcR-alpha/beta+ T cells and B cells was efficiently inhibited by cycloheximide, indicating the requirement of de novo protein synthesis, including p53 protein, for radiation-induced apoptosis in both subpopulations. In marked contrast, no identifiable levels of p53 protein were induced in either TcR-gamma/delta+ T or NK cells after gamma-irradiation. In addition, it was demonstrated that radiation-induced cell death in TcR-gamma/delta+ T and NK cells could be prevented by interleukin-2, but not by cycloheximide. These results imply that radiation-induced lymphocytic apoptosis can be mediated by p53-dependent or -independent mechanisms.

<75>

Authors

Iusupova LB.

Title

[Luminescent analysis of peripheral blood lymphocytes of patients with chronic diseases of the gastrointestinal system]. [Russian]

Source

Klinicheskaja Laboratornaia Diagnostika. (4):18-22, 1994.

Abstract

Changes in fluorescence intensity of blood lymphocytes of patients with somatic and pretumorous diseases of the gastrointestinal system were detected: fluorescence intensity of lymphocytes fluorochrome-stained with acridine orange was increased in chronic gastric and pancreatitis whereas in patients with pretumorous diseases this parameter could be both increased and decreased. Exposure to an extra stress factor, such as low-dose ionizing radiation, manifested by increased fluorescence intensity of normal subjects' blood lymphocytes, a certain normalization

of this parameter in patients with somatic diseases, and an increase of the amplitude of shifts vs. the normal range in patients with pretumor gastrointestinal diseases. Fluorescent analysis of lymphocytes helps integrally assess the functional activity of immunohomeostasis.

<76>

Authors

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Title

Alteration of irradiated shuttle vector processing by exposure of human lymphoblast host cells to single or split gamma-ray doses.

Source

International Journal of Radiation Biology. 65(2):157-64, 1994 Feb.

Abstract

The repair of damaged DNA by mammalian cells exposed to single or split doses of radiation was probed with shuttle vector pZ189. Human lymphoblast hosts who received a single 120 cGy dose 2 h before transfection with 2500 cGy-damaged pZ189 yielded a two-fold higher frequency of progeny plasmids with mutations in their supF-tRNA target genes than did unirradiated host cells. Delaying transfection for 12 h, however, reduced the mutation frequency by half versus unirradiated controls. Plasmid survival was also affected by the time between host cell irradiation and transfection. Splitting doses of 50-500 cGy into two equal fractions separated by 4 h lowered mutation frequency and increased plasmid survival compared with equivalent acute doses; increasing the interval between dose fractions to 8 h, however, lowered plasmid survival compared with acute doses. Sequence analyses of the target gene in mutant plasmids revealed increased multiple-base substitution mutations among progenies recovered from irradiated hosts, indicating enhanced excision repair. These findings support modulation of mammalian cell DNA repair by ionizing radiation, disclose the transient nature of the effect of radiation on DNA repair, and demonstrate a quantitative difference in the effectiveness of single and split doses.

<77>

Authors

Gubrii IB.

Title

[Changes in immunocompetent cells under exposure to ionizing radiation].
[Review] [Russian]

Source

Tsitologiia i Genetika. 28(1):90-8, 1994 Jan-Feb.

Abstract

The modern knowledge concerning radiosensitivity of immunocompetent cells and intracellular changes is discussed in the review. A conclusion is made about the results of irradiation which are not easy to interpret. They depend on the cell type, functional state, and some other factors and

conditions. The situation must be taken into consideration when developing the problem about treatment of post-irradiation changes. [References: 71]

<78>

Authors

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Title

T cells are the cellular target of the proliferation-augmenting effect of chronic low-dose ionizing radiation in mice.

Source

Radiation Research. 139(1):47-52, 1994 Jul.

Abstract

The proliferative response to mitogenic stimulation by splenocytes can be augmented by exposing mice to whole-body, chronic, intermittent low doses of ionizing radiation, referred to here as low-dose irradiation. The purpose of this study was to identify the cell(s) in the spleen which is responsive to the proliferation-augmenting effect of low-dose irradiation, i.e., the cellular target. C57BL/6 mice were subjected to low-dose irradiation (0.04 Gy/exposure/day, 5 consecutive days/week, 2 weeks) or to sham irradiation. Three days after the last exposure, spleens were removed, separated into cell fractions which were nonadherent and adherent to plastic surfaces and reconstituted in various combinations, and their proliferative responses to various mitogens were determined. Highly purified T cells were also used in place of the nonadherent cell fraction in the reconstitution studies. The target cells were shown to be T cells. The target T cells of low-dose-irradiated mice possessed elevated constitutive levels of HSP-70 mRNA and HSP-72, and they responded to T-cell receptor-specific anti-CD3 stimulation by producing more HSP-70 mRNA and HSP-72 and by proliferating more extensively than T cells of sham-irradiated mice.

<79>

Authors

Kirsanova VA. Sergeeva NS. Sviridova IK. Chissov VI. Babarina AV. Kuriliak OA. Makhmurova NT. Pelevina II.

Title

[The development and testing of an MTT method for assessing the reaction of peripheral blood lymphocytes to irradiation]. [Russian]

Source

Radiatsionnaia Biologiia, Radioecologiia. 34(2):213-9, 1994 Mar-Apr.

Abstract

The semiautomatic MTT assay for evaluation of differences in the reaction of human donors' peripheral blood lymphocytes to ionizing radiation was developed. The stimulation conditions and period of cultivation were determined, and redox activity of lymphocytes and their coefficient of stimulation after irradiation with different doses were defined.

<80>

Authors

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Title

Activation of nuclear factor kappa B in human lymphoblastoid cells by low-dose ionizing radiation.

Source

Radiation Research. 138(3):367-72, 1994 Jun.

Abstract

Nuclear factor kappa B (NF-kappa B) is a pleiotropic transcription factor which is involved in the transcriptional regulation of several specific genes. Recent reports demonstrated that ionizing radiation in the dose range of 2-50 Gy results in expression of NF-kappa B in human KG-1 myeloid leukemia cells and human B-lymphocyte precursor cells; the precise mechanism involved and the significance are not yet known. The present report demonstrates that even lower doses of ionizing radiation, 0.25-2.0 Gy, are capable of inducing expression of NF-kappa B in EBV-transformed 244B human lymphoblastoid cells. These results are in a dose range where the viability of the cells remains very high. After exposure to 137Cs gamma rays at a dose rate of 1.17 Gy/min, a maximum in expression of NF-kappa B was seen at 8 h after a 0.5-Gy exposure. Time-course studies revealed a biphasic time-dependent expression after 0.5-, 1- and 2-Gy exposures. However, for each time examined, the expression of NF-kappa B was maximum after the 0.5-Gy exposure. The expression of the p50 and p65 NF-kappa B subunits was also shown to be regulated differentially after exposures to 1.0 and 2.0 Gy.

<81>

Authors

Huo YK. Wang Z. Hong JH. Chessa L. McBride WH. Perlman SL. Gatti RA.

Institution

Department of Pathology, UCLA School of Medicine 90024-1732.

Title

Radiosensitivity of ataxia-telangiectasia, X-linked agammaglobulinemia, and related syndromes using a modified colony survival assay.

Source

Cancer Research. 54(10):2544-7, 1994 May 15.

Abstract

We used a modified colony survival assay to measure the sensitivity to ionizing radiation of more than 50 lymphoblastoid cell lines from normal individuals and from patients with ataxia-telangiectasia, Nijmegen breakage syndrome variants, and X-linked agammaglobulinemia. All of these disorders are associated with an increased frequency of cancer. Lymphoblastoid cell lines from patients with ataxia-telangiectasia complementation groups A, C, D, and E; ATFresno; Nijmegen breakage syndrome variants V1 and V2; and X-linked agammaglobulinemia showed marked radiosensitivity, whereas ataxia-telangiectasia heterozygotes were similar

to controls. Friedreich's ataxia is not associated with increased cancer risk; lymphoblastoid cell lines from two such patients showed normal radiosensitivity. Taken together, these results suggest that some forms of X-ray sensitivity and cancer susceptibility share a common mechanism, such as an enzyme that is necessary both for the repair of radiation damage to DNA and for gene rearrangements during V(D)J recombination.

<82>

Authors

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Department of Radiation Oncology, Medical College of Wisconsin, Milwaukee 53226.

Title

Chromosomal adaptive response in human lymphocytes. [Review]

Source

Radiation Research. 138(1 Suppl):S9-12, 1994 Apr.

Abstract

It has been almost a decade since the initial report of Olivieri et al. (Science 223, 594-597, 1984) on the phenomenon they termed "adaptive response of human lymphocytes to ionizing radiation." Although a number of reports have appeared since then, our understanding of this response is still incomplete. In this paper, the author presents an analysis of the area using published data in the literature as well as unpublished data from the author's laboratory. Most of the data come from measurements of the effects of low-dose radiation on chromatid-type aberrations induced in late S/early G2 phase cells. Exposure of lymphocytes to low doses of ionizing radiation can affect a certain fraction of aberrations induced by a subsequent high dose. Chemicals have been substituted for ionizing radiation as either inducers or challenging agents; however, their use has not provided specific information about inducing signals or target lesions. The working hypothesis in studies on adaptive response is that a repair activity is induced that acts on lesions in DNA. Although there is promising evidence that new and/or altered synthesis of proteins is required to observe reductions in aberrations, the gap between hypothesis and evidence is still wide. Co-ordinate analysis of different end points in individual cells should help to close this gap. While an adaptive response can be induced under a range of conditions, there is no good explanation for the inter/intradonor variability observed. The contributors to this variation need to be identified. [References: 30]

<83>

Authors

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Title

Evidence for induced radioresistance from survival and other end points: an introduction.

Source

Radiation Research. 138(1 Suppl):S5-8, 1994 Apr.

Abstract

A substantial body of data published during the past 30 years makes a strong case for the existence of cellular radioprotective mechanisms that can be up-regulated in response to exposure to small doses of ionizing radiation. Either these "induced" mechanisms can protect against a subsequent exposure to radiation that may be substantially larger than the initial "priming" or "conditioning" dose, or they may influence the shape of the survival response to single doses so that small radiation exposures are more effective per unit dose than larger exposures above a threshold where the induced radioprotection is triggered. Evidence for these effects comes from studies in vitro with protozoa, algae, higher plant cells, insect cells, mammalian and human cells, and studies on animal models in vivo. Work at the molecular level is now confirming that changes in levels of some cytoplasmic and nuclear proteins, and the increased expression of some genes, may occur within a few hours or even minutes of irradiation. This would be sufficiently quick to explain the phenomenon of induced radioresistance although the precise mechanism, whether by repair, cell cycle control or some other process, remains yet undefined.

<84>

Authors

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Title

Radioadaptation to the mutagenic effect of ionizing radiation in human lymphoblasts: molecular analysis of HPRT mutants.

Source

Cancer Research. 54(7 Suppl):1924s-1928s, 1994 Apr 1.

Abstract

A 70% reduction of HPRT- mutant frequency in radioadapted human lymphoblastoid cells has been reported, as analyzed by the Southern blot method (O. Rigaud et al., Radiat. Res., 133: 94-101, 1993). The data reported here extend the previous molecular analysis to a collection of 118 mutants. Structural rearrangements of the HPRT gene were determined using the multiplex polymerase chain reaction assay. This allows us to define more precisely the deleted exons in mutants and to ensure the absence of small alterations in exons among mutants with no detectable change after Southern analysis. The phenotype of these latter mutants is likely to be due to point mutations. Overall results of both Southern and multiplex polymerase chain reaction analyses confirm that the proportion of deletion-type mutations is decreased in adapted cells (42%) compared to that in mutants treated with the high dose alone (77%). Mutants with no change at the HPRT gene level were further characterized with respect to their HPRT gene expression. The vast majority of adapted mutants (86%) were still expressing mRNA, whereas HPRT transcripts were detected in only 56% of the mutants induced by the high dose alone. From these data and those reported by others, possible mechanisms underlying the adaptive

response are proposed.

<85>

Authors

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Institution

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Title

Cell-cycle-stage specificity of the methotrexate block as resolved by X-ray-induced chromosome damage.

Source

Cytogenetics & Cell Genetics. 66(2):126-8, 1994.

Abstract

Radiation-induced chromosome aberrations were used as biomarkers to compare G₀, mid-G₁, and methotrexate (MTX)-arrested lymphocytes. The ratio of chromosome-type to chromatid-type aberrations in MTX-arrested cells was consistent with that predicted when postreplicative chromosomes are exposed to ionizing radiation and supports the premise that MTX arrests cells in late S/G₂ of the cell cycle.

<86>

Authors

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Title

Radiation-induced damage, repair and exchange formation in different chromosomes of human fibroblasts determined by fluorescence in situ hybridization.

Source

Radiation Research. 137(1):34-43, 1994 Jan.

Abstract

We have used fluorescence in situ hybridization with whole-chromosome probes for human chromosomes 1, 4, 8 and 13 to investigate the extent to which the induction of damage and its repair after exposure to ionizing radiation is distributed randomly among these chromosomes. All the studies were performed with AG1522 human fibroblasts irradiated with 6 Gy and maintained in a nondividing state for at least 6 h after irradiation except for the measurements of initial damage. The extent of initial damage was determined by fusion of the cells immediately after irradiation with metaphase HeLa cells to obtain premature chromosome condensation (PCC). Breaks and exchanges were also scored by PCC 24 h after irradiation and in metaphase spreads at the first division after irradiation. The data obtained were consistent with random breakage and repair in these chromosomes. Comparing PCC 24 h after irradiation with first metaphase, there was a deficit in aberrations at metaphase, particularly in unrejoined breaks, implying loss or slowing of cells containing aberrations prior to the first division. An analysis of dicentrics and translocations in chromosome 4 at first and in subsequent divisions showed

that there was an equal number of dicentrics and translocations at first metaphase with loss of dicentrics, but no loss of translocations in subsequent divisions. These data are supportive of the hypothesis tht the total number of chromosome aberrations in cells can be estimated from a single chromosome pair.

<87>

Authors

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Title

Hypersensitivity of lymphoblastoid lines derived from ataxia telangiectasia patients to the induction of chromosomal aberrations by etoposide (VP-16).

Source

Mutation Research. 290(2):265-72, 1993 Dec.

Abstract

Mammalian DNA topoisomerase II represents the cellular target of many antitumor drugs, such as epipodophyllotoxin VP-16 (etoposide). The mechanism by which VP-16 exerts its cytotoxic and antineoplastic actions has not yet been firmly established, although the unique correlation between sensitivity to ionizing radiation and to topoisomerase II inhibitors suggest the involvement of DNA double-strand breaks. In the present study we analyzed the chromosomal sensitivity of lymphoblastoid cell lines derived from ataxia telangiectasia (AT) patients to low concentrations of the drug. Our results indicate that AT derived cells are hypersensitive to the clastogenic activity of VP-16 either when the drug is present for the whole duration of the cell cycle or specifically in the G2 phase, confirming that the induction of DNA double strand breaks, to which AT cells seem typically sensitive, could have an important role in the biological activity of VP-16.

<88>

Authors

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Title

DNA strand breaks and chromosomal aberrations induced by H2O2 and 60Co gamma-radiation.

Source

Mutation Research. 289(2):197-204, 1993 Oct.

Abstract

DNA strand breaks and chromosomal aberrations (CAs) were studied in human cells treated with hydrogen peroxide or with ionizing radiation. DNA strand breaks could be produced at dose levels of H2O2 much lower than

those which induced CAs. Doses as low as 0.5 mM of H₂O₂ produced about as many DNA strand breaks as 2 Gy of ⁶⁰Co gamma-radiation. On the other hand, as much as 20 mM H₂O₂ produced only half as many CAs as 1 Gy of ⁶⁰Co gamma-radiation. The different mechanisms involved in the production of human genetic damage by H₂O₂ and gamma-radiation are discussed.

<89>

Authors

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Title

HPRT-mutant frequency and lymphocyte characteristics of workers exposed to ionizing radiation on a sporadic basis: a comparison of two exposure indicators, job title and dose.

Source

Mutation Research. 319(1):61-70, 1993 Sep.

Abstract

Using the clonal HPRT-mutant frequency assay, mutant frequencies of humans have been shown to rise following exposure to large doses of mutagens during radiotherapy, chemotherapy or after an atom bomb explosion. Success in relating mutant frequencies to exposure to high levels of mutagens has encouraged researchers to examine the effects of lower doses, such as those found among workers exposed at their jobs. In order to relate low doses of mutagens to biological effects, accurate characterization of exposure is critical, but most occupational studies are forced to use gross measures of exposure derived from job title or professional judgments as to potential exposure. Mutant frequencies and other relevant lymphocyte characteristics of 58 industrial workers were related to exposure status in two ways. When workers were classed as "exposed" or "unexposed" to ionizing radiation, no difference in any biological variable was seen between the two groups. When dosimeter readings were used as the exposure indicator, significant relationships appeared between dose and mutant frequency and CD4/CD8 lymphocyte subpopulation ratios. Mutant frequency was also positively related to age and smoking status. The time course of exposure and of appearance of mutant cells is discussed and it is suggested that this relationship receive attention in occupational studies of genotoxic effects.

<90>

Authors

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Title

Cytogenetic study in lymphocytes from children exposed to ionizing radiation after the Chernobyl accident.

Source

Mutation Research. 319(1):55-60, 1993 Sep.

Abstract

The present study concerns the monitoring of children from the Byelorussian, Ukrainian and Russian republics exposed to the fall-out of the Chernobyl accident. Cytogenetic analyses have been performed on 41 children coming from different areas and exhibiting varying amounts of ¹³⁷Cs internal contamination, as evaluated by whole-body counter (WBC) analysis. On a total of 28,670 metaphases scored, radiation-induced chromosome damage is still present, although at a very low frequency. Due to the very low fraction of dicentrics, because of the time elapsed from the accident and the relatively low doses of exposure, radiobiological dosimetry is not possible for these children. However, considering that the WBC data indicate that the children are still exposed to ¹³⁷Cs contamination, the observed occurrence of stable chromosome rearrangements and breaks may represent the persisting effect of continuous low doses of radiation. The present study also indicates that the parallel use of internal contamination dosimetry and cytogenetics could be usefully employed to monitor individual exposure to radiation and to define further management measures.

<91>

Authors

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Title

Enhanced DNA repair in lymphocytes of Down syndrome patients: the influence of zinc nutritional supplementation.

Source

Mutation Research. 295(3):105-11, 1993 Aug.

Abstract

Oral zinc supplementation is able to correct zinc deficiency and some immune defects present in Down's syndrome (DS), while other beneficial effects can be predicted because of the broad spectrum of biochemical pathways and the great variety of enzymes which depend on zinc bio-availability. To test if the maintenance of DNA integrity is also affected by zinc supplementation, DNA damage and repair after gamma-radiation was studied by alkaline elution assay in phytohemagglutinin-stimulated lymphocytes from Down's syndrome children before and after an oral zinc supplementation given for 4 months to correct their immune defects. In comparison with lymphocytes from normal children the DNA damage induction after ionizing radiation in DS lymphocytes both before and after zinc supplementation was normal. On the other hand, the rate of DNA repair in DS was highly and significantly accelerated before zinc treatment. After supplementation with zinc sulfate, the DNA repair rate was consistently slowed down becoming similar to that of control subjects. This is the first demonstration that a nutritional intervention in humans is apparently able to modify the biochemical steps which control the rate of DNA repair.

<92>

Authors

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Title

Cytogenetic analysis of lymphocytes from hospital workers occupationally exposed to low levels of ionizing radiation.

Source

Mutation Research. 286(2):275-9, 1993 Apr.

Abstract

Cytogenetic studies were performed in lymphocytes from hospital workers exposed to low doses of radiation (1.6-42.71 mSv). When compared with controls, exposed workers showed a significant increase in structural chromosome-type aberrations, acentric fragments being the most frequent alteration. Our results suggest that acentric fragments are good indicators of exposure to very low doses of radiation, although no dose-effect correlation was observed. The incidence of numerical abnormalities (hyperdiploidy) was significantly increased.

<93>

Authors

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Title

Radiation induced micronuclei in subpopulations of human lymphocytes.

Source

Mutation Research. 286(2):181-8, 1993 Apr.

Abstract

The micronucleus expression in T-helper, T-suppressor and B lymphocytes of the peripheral blood was studied after in vitro exposure to high (2.5 Gy and 5 Gy) and low (0.5 Gy and 1 Gy) doses of ionizing radiation. Investigations were carried out by combining the micronucleus assay with immunofluorescence staining using subpopulation specific antibodies. While in the higher dose range B cell proliferation was inhibited nearly completely-so that micronuclei could not be expressed-we found after exposure to lower doses that B cells were the lymphocyte subpopulation which was most sensitive to micronucleus induction. Among the T cell population, the T-suppressor subset revealed a higher yield of micronuclei than T-helper cells, whereas with regard to the effect of radiation on proliferative ability, T-helper cells reacted more sensitivity than the T-suppressor lymphocytes. Our studies provide insight into the effect of radiation exposure on the micronucleus expression of lymphocyte subpopulations and new information which may be useful for the further development of biological dosimetry.

<94>

Authors

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Title

Induction of micronuclei by bleomycin in G0 human lymphocytes: II. Potentiation by radioprotectors.

Source

Environmental & Molecular Mutagenesis. 21(2):136-43, 1993.

Abstract

Dimethylsulfoxide (DMSO) and WR-1065 are radioprotectors, in that they reduce the effectiveness with which ionizing radiation causes genetic damage. Unlike their protective effects with radiation, these agents potentiate the induction of micronuclei by bleomycin in the cytokinesis-block assay in G0 human lymphocytes. High concentrations of DMSO (1 M) are required to cause potentiation. In contrast, WR-1065 causes dose-dependent potentiation at relatively low concentrations (1.25 to 10 mM). Cytogenetic analysis supports the results from the micronucleus assay, showing higher levels of genetic damage induced by the combination of bleomycin with DMSO or WR-1065 than by bleomycin alone. Possible mechanisms of potentiation are proposed.

<95>

Authors

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Title

Evidence that the adaptive response of human lymphocytes to ionizing radiation acts on lethal damage in nonaberrant cells.

Source

Mutation Research. 301(3):171-6, 1993 Mar.

Abstract

In a previous study we found that a cytogenetic adaptive response could lead to increases in survival if there was a sufficient increase in nonaberrant cells (Shadley and Dai, 1992). Since the high challenge doses used produced mainly multiply aberrant cells, we suggested using challenge doses that gave mainly singly aberrant cells in order to improve detection of a survival adaptive response. To test this, human lymphocytes from 6 donors were exposed in the first G1 phase to 5 cGy of X-rays, followed by 100 cGy 6 h later. Nearly all of the aberrant cells bore only one chromosome aberration with this challenge dose, and in agreement with our proposal, survival adaptive responses were seen in 4 of 6 donors. A near 1:1 relationship between the % nonaberrant cells and % survival was found with 100 cGy, suggesting that the lymphocyte populations scored in the survival and aberration assays were representative of each other. However, the increase in nonaberrant cells was not sufficient to account for the increase in survival. Thus, a large fraction of the increase in survival

was due to a decrease in lethal damage in cytologically nonaberrant cells. Such damage could range from sub-microscopic lesions, to larger alterations not visible in Giemsa-stained cells. In conjunction with adaptive response studies of others, these results intimate that the adaptive response affects damage at different levels of chromosomal hierarchy (i.e. from the chromosome to DNA). The process(es) responsible for the effects observed in this study may act on lethal, rather than mutagenic lesions.

<96>

Authors

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Title

Effects of low-doses of X-rays on the expression of human cell surface CD2 antigen in CD2+ CHO cells.

Source

International Journal of Radiation Biology. 64(5):621-6, 1993 Nov.

Abstract

Thioguanine resistant CHO cells (HPRT-) were stably cotransfected with pSV2-gpt and pi H3-CD2 vectors using the calcium phosphate coprecipitation technique. The effects of single low doses of ionizing radiation were studied in a CD2+ CHO clone. The CD2+ phenotype responsible for binding sheep erythrocytes and rosette formation, was not affected by X-rays doses in the range 2-6 cGy. However, after 10 cGy of X-irradiation, 50% of the cells lost the CD2+ phenotype. These results suggest that this CD2+ clone might be a very sensitive indicator of very low X-ray doses. The implications of the phenotypic changes, observed after very low doses of irradiation, are discussed.

<97>

Authors

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Title

Validation of chromosome painting as a biodosimeter in human peripheral lymphocytes following acute exposure to ionizing radiation in vitro.

Source

International Journal of Radiation Biology. 64(1):27-37, 1993 Jul.

Abstract

Fluorescence in situ hybridization with chromosome-specific composite DNA probes ('chromosome painting') appears to be a useful tool for quantifying symmetrical cytogenetic damage. However, a thorough comparison between chromosome painting and the conventional methods of GTG-banding and dicentric analysis has not been performed. We have undertaken the validation of chromosome painting using human blood exposed in vitro to

¹³⁷Cs gamma-rays at doses ranging from 0 to 400 cGy, then cultured according to standard procedures and harvested at 52 h. For painting, bound probes were detected either with fluoresceinated avidin and counterstained with propidium iodide, or with ChromoBlue WCP Probe and Giemsa. The first approach utilizes ultraviolet excitation in which painted chromosomes appear yellow and the remaining chromosomes appear red. The ChromoBlue labelling approach requires ordinary light microscopy in which painted chromosomes appear dark blue and the remaining chromosomes appear light blue. With each method, exchanges between painted and unpainted chromosomes appear bi-coloured. Because only a fraction of all possible exchanges are detected, the number of metaphases examined is adjusted according to the fraction of the genome painted. We have performed painting by several methods, including fluorescence with chromosome 4 probe alone, fluorescence with probes for chromosomes 1, 3 and 4 simultaneously, and chromogenic painting with chromosome 4 probe alone. The results obtained by the various painting methods were compared with GTG-banded cells which were examined for both translocations and dicentrics. In addition, unbanded metaphases stained with Giemsa were scored for dicentrics. Our data show that the frequency of chromosome exchanges detected by painting and banding agree with each other and with the number of dicentrics seen in unbanded cells, at least at doses of < or = 200 cGy.

<98>

Authors

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Title

Biological dosimetry of absorbed radiation by C-banding of interphase chromosomes in peripheral blood lymphocytes.

Source

International Journal of Radiation Biology. 63(3):349-54, 1993 Mar.

Abstract

Induction of premature chromosome condensation enables direct observation of radiation-induced cytogenetic damage in non-stimulated, interphase, human peripheral blood lymphocytes. This phenomenon can be explored in radiation protection for biological dosimetry in instances of accidental exposure to ionizing radiation. Quantification of an exposure by means of this approach has been limited so far mainly to the analysis of chromosome fragments. This limitation is due to the fact that conventional Giemsa staining of prematurely condensed chromosomes (PCCs) does not allow visualization of the centromeric regions and, as a result, the identification of dicentrics, centric rings and acentric fragments. In the present report a C-banding procedure, refined to avoid swelling and chromosome distortion of freshly prepared PCCs spreads, is used to identify such aberrations in non-stimulated human lymphocytes. The method allows immediate banding of the centromeric regions and enables scoring of aberrations within a time interval (3-4 h after blood sample withdrawal) that is only a fraction of that normally required when cells stimulated to

proliferate are analysed at metaphase. The dose-response for dicentric and centric rings measured in interphase lymphocytes was found to be similar to that obtained at metaphase. Measurement of dicentric and centric rings in prematurely condensed chromosomes of human lymphocytes would provide valuable information on radiation dose estimates, especially in cases of extreme urgency.

<99>

Authors

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Title

[Evaluation of chromosome damage induced by X-rays in human lymphocytes].
[Spanish]

Source

Revista Medica de Chile. 121(11):1240-4, 1993 Nov.

Abstract

Aiming to assess the DNA damage induced by low doses of ionizing radiations, control and X-ray irradiated (10 rad) whole blood cultured lymphocytes were treated with the following G2 DNA synthesis and repair inhibitors: caffeine (caff), hydroxyurea (hu), aphidicolin (aphi) and 1-beta-D-arabinofuranocylcytosine (ara C). The effects of each inhibitor or its combinations were assessed counting the number of chromatid breaks, which were considered equivalent to unrepaired lesions. Our results showed that 5 mM caff and 2.5 mM Hu were the inhibitors that separately produced the higher frequency of chromatid breaks. Likewise, the combination of 5 mM caff, aphi 5 micrograms/ml and ara C 1 microM, or 2.5 mM HU and 0.1 microM ara C, allowed to detect the highest number of induced lesions arriving G2 lesions. We therefore propose that the use of these two last inhibitor combinations, can be used as alternative methods to detect DNA damage induced by low levels of ionizing radiation, in lymphocytes of occupationally exposed individuals.

<100>

Authors

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Title

Mechanisms for induction of mutations and chromosome alterations.

Source

Environmental Health Perspectives. 101 Suppl 3:225-9, 1993 Oct.

Abstract

Genotoxic agents induce chromosomal alterations, such as aberrations, micronuclei, and sister chromatid exchanges as well as mutations both in vivo and in vitro. Ionizing radiation and typical radiomimetic agents such as bleomycin are very efficient inducers of chromosomal aberrations.

The type of aberrations induced by these agents are cell-cycle dependent, i.e., chromosome type in pre-replication stages and chromatid type in post-replication stages of the cell cycle. Under optimal DNA repair conditions, DNA double-strand breaks (DSBs) appear to be the most important lesion responsible for the production of aberrations. In human lymphocytes, fast-repairing DSBs lead to exchange-type aberrations. The fact that the dose-response curves for induction of exchange aberrations induced by ionizing radiation are similar in vitro and in vivo allows one to use the yield of induced aberrations to estimate absorbed radiation dose in the case of accidents. In this respect, frequencies of translocations detected by the chromosome painting technique appear to be more sensitive. Mutations do not express immediately after exposure and require an expression time before they can be detected. In humans, it is estimated that for the mutations induced in bone marrow, it takes about 2 months for them to express and to be detected in peripheral blood lymphocytes. Hence, frequency of mutations is of limited value for estimating radiation doses immediately after an accident. This holds true for chemical exposure as well.(ABSTRACT TRUNCATED AT 250 WORDS)

<101>

Authors

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Title

Somatic cell gene mutations in humans: biomarkers for genotoxicity.

Source

Environmental Health Perspectives. 101 Suppl 3:193-201, 1993 Oct.

Abstract

Somatic cell gene mutations arising in vivo in humans provide biomarkers for genotoxicity. Four assays, each measuring changes in a different "recorder" gene, are available for detecting mutations of the hemoglobin (Hb) and glycophorin A (gpa) genes in red blood cells and the hypoxanthine-guanine phosphoribosyltransferase (hpert) and HLA genes in T-lymphocytes. Mean adult background mutant frequencies have been established; i.e., approximately 4×10^{-8} (Hb), $5-10 \times 10^{-6}$ (hpert), $10-20 \times 10^{-6}$ (gpa) and 30×10^{-6} (HLA). All the assays have now been used in studies of individuals exposed to physical and/or chemical genotoxic agents, and all have shown elevated values following exposures; examples are presented. In addition to quantitation, the lymphocyte assays allow molecular analyses of in vivo mutations, the definition of background and induced mutational spectra, and the search for unique changes for characterizing specific mutagens. The HPRT system currently has the largest database in this regard. Approximately 15% of adult background hpert mutations are due to gross structural alterations (primarily deletions) having random breakpoints; 85% result from "point" changes detected only by sequencing. In contrast, a specific intragenic deletion due to DNA cleavage at specific sites characterizes fetal hpert mutations, implicating a developmental mistake in their genesis. (This kind of developmental mistake in other genes is frequently observed in

lymphoid malignancies.) Mutational spectra are just beginning to be defined for induced hprt mutations, e.g., ionizing radiation produces large deletions.(ABSTRACT TRUNCATED AT 250 WORDS)

<102>

Authors

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Title

Interleukin-1 and tumor necrosis factor-alpha as radio- and chemoprotectors of bone marrow. [Review]

Source

Bone Marrow Transplantation. 12(6):551-63, 1993 Dec.

Abstract

Administration of interleukin 1 (IL-1) or tumor necrosis factor-alpha (TNF alpha) protects bone marrow precursor cells (BMPC) from ionizing radiation and antineoplastic drugs. The time of injection is critical: the best protective results being obtained when cytokines are given around 24h prior to the induced injury. Multiple daily cytokine injections that precede irradiation or drug administration are more effective than single ones although single doses are quite effective at increasing survival in mice. Protection is positively correlated with both rapid granulocyte recovery and BMPC survival. Mechanisms involved in BMPC radioprotection include: (1) push to the S/G2 + M or arrest in the G0 phases of the cell cycle by IL-1 or TNF alpha, respectively, and (2) induction of mitochondrial manganous superoxide dismutase synthesis. For BMPC chemoprotection, proposed mechanisms are: (1) increase of aldehyde dehydrogenase synthesis, and (2) modulation of multiple-drug resistant gene expression. Stimulation of glutathione synthesis in BMPC could be operating in both radio- and chemoprotection. These findings point to the relevance of IL-1 or TNF alpha in cancer therapy as a means of reducing BMPC sensitivity to cytoreductive drugs or irradiation (including radioimmunotherapy) as well as in in vitro tumor cell purging with drugs in autologous BMT. Prior administration of these cytokines should be also considered for people in imminent danger of exposure to radiation.

[References: 165]

<103>

Authors

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Title

A comparison of micronucleus frequency and radiation survival in lymphoblastoid cell lines.

Source

Mutagenesis. 8(6):569-75, 1993 Nov.

Abstract

The relationship between the formation of micronuclei (MN) following the treatment of cell lines with ionizing radiation and the radiation survival of cell lines is important as the MN assay has the potential to predict radiation survival. Studies investigating the relationship have reached conflicting conclusions. We examined the relationship between MN formation and radiation survival measured by a clonogenic assay in six lymphoblastoid cell lines over a dose range of 0-2.0 Gy. We did not find a predictive relationship between the radiation induced MN frequency and the radiation survival in these cell lines. Possible reasons for the lack of correlation include variations in the percentage of scorable cells after irradiation and culture with cytochalasin B, different numbers of cells in the G1 phase of the cell cycle at the time of irradiation, a greater toleration of the loss of MN by hyperdiploid cell lines compared to diploid cell lines and quantitative differences in the conversion of chromosomal fragments into MN for the cell lines.

<104>

Authors

Frolov VM. Peresadin NA. Kazakova SE. Safonova EF.

Title

[Immune status of people participating in the clean-up of after-effects of the Chernobyl Nuclear Power Plant accident living in the industrial region of Donbass]. [Russian]

Source

Gematologiya i Transfuziologiya. 38(7):39-42, 1993 Jul-Aug.

Abstract

The examination of 286 subjects exposed to radiation hazards when taking part in liquidation of the Chernobyl accident aftereffects was performed to compare persons living under ecologically unfavourable conditions (significant air pollution due to heavy industry) against those living in relatively comfortable environment. It was found that immune status of the former displayed imbalance. In the latter immunity was much less damaged. The findings suggest a conclusion on the role of environmental factors in immunological disturbances in subjects exposed to small doses of ionizing radiation.

<105>

Authors

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Title

Synergistic effects of ionizing radiation and 60 Hz magnetic fields.

Source

Bioelectromagnetics. 14(6):545-51, 1993.

Abstract

Experiments designed to evaluate the synergistic production of clastogenic effects by ionizing radiation and 60 Hz magnetic fields were performed using human lymphocytes from peripheral blood. Following exposure to

ionizing radiation, cells were cultured in 60 Hz magnetic fields having field strengths up to 1.4 mT. Cells exposed to both ionizing radiation and 60 Hz magnetic fields demonstrated an enhanced frequency of near tetraploid chromosome complements, a feature not observed following exposure to only ionizing radiation. The results are discussed in the context of a multiple-stage model of cellular transformation, employing both initiating and promoting agents.

<106>

Authors

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Title

Caffeine enhanced measurement of mutagenesis by low levels of gamma-irradiation in human lymphocytes.

Source

Somatic Cell & Molecular Genetics. 19(5):423-9, 1993 Sep.

Abstract

The well-known action of caffeine in synergizing mutagenesis (including chromosome aberrations) of agents like ionizing radiation by inhibition of cellular repair processes has been incorporated into a rapid procedure for detection of mutagenicity with high sensitivity. Effects of 5-10 rads of gamma-irradiation, which approximate the human lifetime dose accumulation from background radiation, can be detected in a two-day procedure using an immortalized human WBC culture. Chromosomally visible lesions are scored on cells incubated for 2 h after irradiation in the presence and absence of 1.0 mg/ml of caffeine. An eightfold amplification of scorable lesions is achieved over the action of radiation alone. This approach provides a closer approximation to absolute mutagenicity unmitigated by repair processes, which can vary in different situations. It is proposed that mutagenesis testing of this kind, using caffeine or other repair-inhibitory agents, be employed to identify mutagens in their effective concentrations to which human populations may be exposed; to detect agents such as caffeine that may synergize mutagenic actions and pose epidemiologic threats; and to discover effective anti-mutagens. Information derived from the use of such procedures may help prevent cancer and newly acquired genetic disease.

<107>

Authors

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Title

Inhibition of poly(ADP-ribose) polymerization preserves the glutathione pool and reverses cytotoxicity in hydrogen peroxide-treated lymphocytes.

Source

Biochemical Pharmacology. 46(12):2139-44, 1993 Dec 14.

Abstract

DNA damage caused by oxygen radicals activates poly(ADP-ribosyl) polymerase (pADPRP), a nuclear enzyme that utilizes NAD⁺ as substrate. It has been demonstrated that pharmacological inactivation of pADPRP rescues human lymphocytes damaged by oxygen radicals, but not those damaged by equitoxic doses of ionizing radiation. In the present paper we demonstrate that the NAD⁺ pool decreases after both damaging treatments and is preserved in a similar fashion by pADPRP inhibition. On the contrary, the ATP pool, cell energy charge and reduced thiols are decreased only by the administration of oxygen radicals, and are preserved if poly(ADP)ribosylation is inhibited. In fact, treatment with oxidant agents depletes the cell energy pools owing to the simultaneous demands of the glutathione (GSH)/NADPH cycle and pADPRP-driven NAD⁺ consumption, while in irradiated cells only the latter mechanism operates. We suggest that, when pADPRP is inhibited, enough energy is available for the preservation of cell thiols, thereby allowing oxidant-treated cells to survive and undergo mitosis. Thus, GSH and energy shortage appear to be the main cause of cell death in oxidant-injured cells.

<108>

Authors

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Title

Ionizing radiation and UV induction of p53 protein by different pathways in ataxia-telangiectasia cells.

Source

Oncogene. 8(12):3307-12, 1993 Dec.

Abstract

Cell cycle anomalies have been described in ataxia-telangiectasia cells after exposure to ionizing radiation. A recent report demonstrates that cells from these patients lack the ionizing radiation-induced increase in p53 protein seen in controls. We report here that an ionizing radiation-induced p53 response is reduced and/or delayed in cells from four ataxia-telangiectasia complementation groups. On the other hand, p53 induction is normal in all A-T complementation groups after exposure to UV-B light, an agent to which these cells are not hypersensitive. Specific inhibitors of protein kinase C and serine/threonine phosphatases prevented the radiation induction of p53 protein. Agents that produced double-strand breaks in DNA and/or inhibition of transcription caused an induction of p53 in the absence of radiation in control cells but not in ataxia-telangiectasia, but inhibitors of cell cycle progression such as mimosine and aphidicolin led to an increase in p53 in both cell types in the absence of radiation. These results suggest that there is more than one signal transduction pathway responsible for activation of p53, one of which is less efficient in ataxia-telangiectasia cells.

<109>

Authors

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Title

Radiation resistance of primary clonogenic blasts from children with acute lymphoblastic leukemia.

Source

International Journal of Radiation Oncology, Biology, Physics.
27(4):899-906, 1993 Nov 15.

Abstract

PURPOSE: Detailed comparative analyses of the radiation sensitivity of primary clonogenic blasts from children with acute lymphoblastic leukemia (ALL) were performed to achieve a better understanding of clinical radiation resistance in ALL. **METHODS AND MATERIALS:** The radiation sensitivity of primary clonogenic blasts from 74 children with newly diagnosed acute lymphoblastic leukemia (ALL) was analyzed using leukemic progenitor cell (LPC) assays. Primary bone marrow blasts from all 74 patients were exposed to ionizing radiation and subsequently assayed for LPC-derived blast colony formation. Radiation survival curves of primary clonogenic blasts (i.e., LPC) were constructed for each of the newly diagnosed patients using computer programs for the single-hit multitarget as well as the linear quadratic models of cell survival. **RESULTS:** A marked interpatient variation in intrinsic radiation sensitivity was observed between LPC populations. The SF2 values ranged from 0.01 to 1.00 (median: 0.36; mean \pm SE = 0.40 ± 0.03), and the alpha values ranged from 0.00 Gy⁻¹ to 3.27 Gy⁻¹ (median: 0.280 Gy⁻¹; mean \pm SE = 0.43 ± 0.09 Gy⁻¹). Patients were divided into groups according to their sex, age, WBC at diagnosis, cell cycle distribution of leukemic blasts, and immunophenotype. Only immunophenotype provided a significant correlation with the intrinsic radiation sensitivity of LPC. Patients with B-lineage ALL had higher SF2 (0.47 ± 0.04 vs. 0.31 ± 0.05 , $p < 0.05$) and smaller alpha values (0.43 ± 0.09 Gy⁻¹ vs. 0.65 ± 0.10 Gy⁻¹, $p < 0.05$) than T-lineage ALL patients, consistent with greater intrinsic radiation resistance at the level of LPC. Notably, 43% of B-lineage ALL cases, but only 27% of T-lineage ALL cases had LPC with SF2 ≥ 0.5 . Similarly, 66% of B-lineage ALL cases, but only 37% of T-lineage ALL cases had LPC with alpha values ≤ 0.4 Gy⁻¹. Combining the two indicators of radiation resistance, we found that only 34% of the B-lineage ALL patients had none of the two parameters in the respective critical regions (alpha ≤ 0.4 Gy⁻¹; SF2 ≥ 0.5), while 63% of the T-lineage patients had none ($p < 0.05$). In multivariate analyses, the immunophenotypic B-lineage affiliation was the only significant predictor of radiation resistance at the level of LPC. Whether alone or in combination, none of the other variables examined, including sex, age, WBC, in vitro plating efficiency, S-phase index, and proliferation index were significantly correlated with the radiation sensitivity or resistance of LPC. **CONCLUSION:** These results offer unprecedented evidence for an association between composite immunophenotype (viz., B-lineage ALL vs T-lineage ALL) and radiation

resistance that may form a basis for modifying radiation conditioning regimens.

<110>

Authors

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Title

A role for mitochondrial DNA in the pathogenesis of radiation-induced myelodysplasia and secondary leukemia. [Review]

Source

Leukemia Research. 17(11):907-13, 1993 Nov.

Abstract

The onset of acute myeloid leukemia following ionizing radiation or alkylating agent exposure is antedated months to years by the development of 'preleukemia', or secondary myelodysplastic syndrome (sMDS). Mitochondrial abnormalities induced by chloramphenicol and clonal deletions of mitochondrial DNA (mt DNA) in the bone marrow create hematological defects similar to sMDS, and abnormal dimers of mt DNA are observed in acute leukemia. This suggests a role for mt DNA in the pathogenesis of sMDS and secondary leukemia. We outline disparate experimental evidence to support this concept and suggest a role for select protease inhibitors in the clinical management of this disorder. [References: 33]

<111>

Authors

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Title

Radiation-activated DNA-binding protein constitutively present in ataxia telangiectasia nuclei.

Source

Journal of Biological Chemistry. 268(30):22450-5, 1993 Oct 25.

Abstract

We have recently described the appearance of a specific DNA-binding protein in nuclei from human cells exposed to ionizing radiation which was not detected in nuclear extracts from unperturbed cells (Singh, S. P., and Lavin, M. F. (1990) Mol. Cell. Biol. 10, 5279-5285). We report here a similar activity which is constitutively present in nuclei of both unirradiated and irradiated cells from patients with the human genetic disorder ataxia telangiectasia (A-T). Activity was present in unirradiated nuclear extracts from 3 A-T cell lines of different complementation groups, but was not detected or was present only at a low level in 4 controls. Active protein was detected in the cytoplasm of both cell types. Exposure to ionizing radiation did not change the amount of DNA binding

activity in A-T nuclei but led to an increase in nuclei from 4 control cell lines. Purification of the binding activities from A-T nuclei and control cytoplasm was carried out by affinity chromatography, as described previously for control extracts (Teale, B., Singh, S. P., Khanna, K. K., Findik, D., and Lavin, M. F. (1992) J. Biol. Chem. 267, 10295-10301). Southwestern analysis and UV cross-linking confirmed the presence of a major DNA-binding species at 70 kDa in both cases with a minor binding activity at 47 kDa also evident. It was not possible to distinguish between the binding activities from A-T and control cells under different conditions, and phosphorylation was required for binding activity in both cases. Footprint analysis revealed that the same sequence was being recognized by the control and A-T proteins. The constitutive presence of a specific radiation-responsive DNA-binding protein in A-T cells may be indicative of a continuous state of stress in these cells.

<112>

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Title

Delayed chromosomal instability induced by DNA damage.

Source

Molecular & Cellular Biology. 13(11):6667-77, 1993 Nov.

Abstract

DNA damage induced by ionizing radiation can result in gene mutation, gene amplification, chromosome rearrangements, cellular transformation, and cell death. Although many of these changes may be induced directly by the radiation, there is accumulating evidence for delayed genomic instability following X-ray exposure. We have investigated this phenomenon by studying delayed chromosomal instability in a hamster-human hybrid cell line by means of fluorescence in situ hybridization. We examined populations of metaphase cells several generations after expanding single-cell colonies that had survived 5 or 10 Gy of X rays. Delayed chromosomal instability, manifested as multiple rearrangements of human chromosome 4 in a background of hamster chromosomes, was observed in 29% of colonies surviving 5 Gy and in 62% of colonies surviving 10 Gy. A correlation of delayed chromosomal instability with delayed reproductive cell death, manifested as reduced plating efficiency in surviving clones, suggests a role for chromosome rearrangements in cytotoxicity. There were small differences in chromosome destabilization and plating efficiencies between cells irradiated with 5 or 10 Gy of X rays after a previous exposure to 10 Gy and cells irradiated only once. Cell clones showing delayed chromosomal instability had normal frequencies of sister chromatid exchange formation, indicating that at this cytogenetic endpoint the chromosomal instability was not apparent. The types of chromosomal rearrangements observed suggest that chromosome fusion, followed by bridge breakage and refusion, contributes to the observed delayed chromosomal instability.

<113>

Authors

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Title

Reactive oxygen intermediates activate NF-kappa B in a tyrosine kinase-dependent mechanism and in combination with vanadate activate the p56lck and p59fyn tyrosine kinases in human lymphocytes.

Source

Blood. 82(4):1212-20, 1993 Aug 15.

Abstract

We have previously observed that ionizing radiation induces tyrosine phosphorylation in human B-lymphocyte precursors by stimulation of unidentified tyrosine kinases and this phosphorylation is substantially augmented by vanadate. Ionizing radiation generates reactive oxygen intermediates (ROI). Because H2O2 is a potent ROI generator that readily crosses the plasma membrane, we used H2O2 to examine the effects of ROI on signal transduction. We now provide evidence that the tyrosine kinase inhibitor herbimycin A and the free radical scavenger N-acetyl-cysteine inhibit both radiation-induced and H2O2-induced activation of NF-kappa B, indicating that activation triggered by ROI is dependent on tyrosine kinase activity. H2O2 was found to stimulate Ins-1,4,5-P3 production in a tyrosine kinase-dependent manner and to induce calcium signals that were greatly augmented by vanadate. The synergistic induction of tyrosine phosphorylation by H2O2 plus vanadate included physiologically relevant proteins such as PLC gamma 1. Although treatment of cells with H2O2 alone did not affect the activity of src family kinases, treatment with H2O2 plus vanadate led to activation of the p56lck and p59fyn tyrosine kinases. The combined inhibition of phosphatases and activation of kinases provides a potent mechanism for the synergistic effects of H2O2 plus vanadate. Induction of tyrosine phosphorylation by ROI may thus lead to many of the pleiotropic effects of ROI in lymphoid cells, including downstream activation of PLC gamma 1 and NF-kappa B.

<114>

Authors

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Title

Flow cytometric analysis of lymphocyte surface markers following a 1-Gy dose of gamma radiation.

Source

Aviation Space & Environmental Medicine. 64(6):528-33, 1993 Jun.

Abstract

Flow cytometric analysis of lymphocytes labeled with monoclonal antibodies was undertaken in order to compare the mean fluorescent intensity of several surface membrane antigens (markers) from irradiated and

nonirradiated blood samples. Whole blood subjected to a 1-Gy (100-rad) dose of 1.25 MeV gamma radiation from a ^{60}Co radioisotope source was compared with nonirradiated blood drawn simultaneously from the same healthy subject. Twenty runs were performed in which the following T and B lymphocyte and natural killer surface markers were analyzed: CD2, CD3, 13, CD4, CD29, CD45RA, CD8, CD56, and CD19. The data demonstrate a radiation-induced decrement in the mean fluorescent intensity of the high molecular weight markers CD45RA and CD56 (decrement is -3.3% and -7.2%, respectively). The statistical validity of these values was confirmed using paired t-tests, which yielded p values of $p < 0.02$ (CD45RA) and $p < 0.01$ (CD56). The fluorescent intensity is proportional to the number of intact binding sites on the lymphocyte surface and the observed decrement directly infers that damage to some sites occurred. These results illustrate a measurable effect on the lymphocyte membrane at a radiation dose at which many lymphocytes will survive, yet may be immunologically altered. This study may have important implications for personnel exposed to ionizing radiation, such as astronauts on long duration missions and radiation workers involved in accidental exposures.

<115>

Authors

Inskip PD. Kleinerman RA. Stovall M. Cookfair DL. Hadjimichael O. Moloney WC. Monson RR. Thompson WD. Wactawski-Wende J. Wagoner JK. et al.

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Title

Leukemia, lymphoma, and multiple myeloma after pelvic radiotherapy for benign disease.

Source

Radiation Research. 135(1):108-24, 1993 Jul.

Abstract

The relationship between exposure to sparsely ionizing radiation and mortality due to cancers of hematopoietic and lymphopoietic tissues was studied among 12,955 women treated for benign gynecological disorders at any of 17 hospitals in New England or New York State and followed for an average of 25 years; 9770 women were treated by radiation (intracavitary ^{226}Ra , external-beam X rays), while 3185 were treated by other methods, including curettage, surgery, and hormones. The average age at treatment was 46.5 years, and the mean dose to active bone marrow among irradiated women was 119 cGy. Forty deaths due to acute, myelocytic, or monocytic leukemia were observed among irradiated women. This number was 70% higher than expected based on U.S. mortality rates [standardized mortality ratio (SMR) = 1.7; 90% confidence interval (CI) 1.3-2.3]. A deficit was recorded among nonirradiated women, based on three observed deaths (SMR = 0.5; 90% CI 0.1-1.2). A well-defined gradient in the SMR with dose among exposed women was not detected. The SMR was highest within 5 years after irradiation but remained elevated even after 30 years. The temporal pattern differed by subtype of leukemia: excess mortality due to chronic

myelocytic leukemia occurred almost exclusively within the first 15 years, whereas the SMR for acute leukemia, though also elevated, varied little over time. Cancers of lymphoreticular tissue occurred more often than expected based on U.S. mortality rates, but not appreciably differently for irradiated and nonirradiated women. There was little or no evidence of effects attributable to radiotherapy for chronic lymphocytic leukemia [relative risk (RR) = 1.1; 90% CI 0.5-3.0], Hodgkin's disease (RR = 0.9; 90% CI 0.3-3.2), non-Hodgkin's lymphoma (RR = 0.9; 90% CI 0.6-1.6), or multiple myeloma (RR = 0.6; 90% CI 0.3-1.4). These results corroborate previous findings indicating that acute and myelocytic leukemias are the most prominent malignancies after exposure to sparsely ionizing radiation, occurring in excess shortly after irradiation, and that lymphomas are either not caused by radiation or are induced only rarely.

<116>

Authors

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Title

DNA double-strand break rejoining deficiency in TK6 and other human B-lymphoblast cell lines.

Source

Radiation Research. 134(3):307-15, 1993 Jun.

Abstract

TK6, WI-L2, SB and three other B-lymphoblast lines were deficient in the rejoining of DNA double-strand breaks (DSBs) induced by ionizing radiation. Cells of these cell lines rejoin less than 50% of the breaks in 60 min after exposure, as assayed by filter elution at pH 9.6. The deficiency in TK6 cells was confirmed using the comet assay. IN TK6 cells the percentage of DSB rejoining did not vary markedly with dose and was similar for G1, S, and G2 + M-phase cells. Two B-lymphocyte lines (Raji and GM0606), three T-lymphoblast lines (MOLT-4, Jurkat, and CCRF-HSB-2), HL-60 promyelocytes, and GM3440 human skin fibroblasts rejoined more than 50% of the DSBs in this period after exposure. Radiation sensitivity in terms of cell survival was measured in those cells forming colonies. Of the cell lines tested, those that were deficient in DSB rejoining were radiation-sensitive (TK6 and WI-L2: $D_0 = 0.64$ Gy). However, not all lines that were proficient in DSB rejoining were radiation-resistant, since Jurkat and GM0606 cells were relatively radiation-sensitive ($D_0 = 0.63$ - 0.73 Gy). TK6 and WI-L2 cells were more sensitive to bleomycin ($D_0 = 8$ - 9 micrograms/ml) than were HL-60 and Raji cells ($D_0 = 40$ - 54 micrograms/ml). No relationship of DSB rejoining to V(D)J recombinase activity was observed, since no mRNA hybridizing to the cDNA probes for RAG-1 or RAG-2 was detected in any of the cell lines tested.

<117>

Authors

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Title

Ratios of radiation-produced chromosome aberrations as indicators of large-scale DNA geometry during interphase.

Source

Radiation Research. 133(3):345-50, 1993 Mar.

Abstract

Chromosome aberrations produced by ionizing radiation are assumed to develop from DNA double-strand breaks (DSBs) which interact pairwise. Stable chromosome aberrations that exemplify inter- and intra-chromosomal exchanges are, respectively, translocations and pericentric inversions. By comparing the number of these for each chromosome one can infer results on the randomness of DSB induction or exchange formation and on large-scale chromosome geometry. We analyze frequencies of translocations and pericentric inversions in lymphocytes from 38 A-bomb survivors, using G-banding. A total of 636 translocations and 102 pericentric inversions were found. The 636/102 ratio of translocations to pericentric inversions is approximately 14 times smaller than predicted by a random model, in general agreement with earlier results and results on the ratio of dicentrics to centric rings for in vitro irradiation. Presumably the excess of intra-chromosomal exchanges is due to a spatial proximity effect, implying a localization of chromosomes within the cell nucleus during and shortly after irradiation. The distribution of the pericentric inversions among different chromosomes indicates this proximity effect is roughly the same for all chromosomes, regardless of DNA content; i.e., the ratio of pericentric inversions for two different chromosomes approximately equals the ratio given by a model which takes into account chromosome lengths and centromere locations but otherwise assumes randomness. Possible exceptions are chromosomes 7 and 12, which show some excess of pericentric inversions. The percentage of translocations involving each chromosome corresponds roughly to the percentage expected assuming randomness, except that for chromosome 1 there is a significant excess.

<118>

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Title

Using three-color chromosome painting to test chromosome aberration models.

Source

Proceedings of the National Academy of Sciences of the United States of America. 90(4):1484-7, 1993 Feb 15.

Abstract

Ionizing radiation induces DNA double-strand breaks (DSB), which interact pairwise to produce chromosome aberrations. There have long been two main

competing theories of such pairwise DSB-DSB interactions. The "classical" theory asserts that an unrepaired DSB makes two ends that separate within the cell nucleus, with each end subsequently able to join any similar (nontelomeric) end. The "exchange" theory asserts that at a DSB the chromatin does not separate completely; rather the DSB ends remain associated until repair, or an illegitimate recombination involving another DSB, occurs. The DSB-DSB interaction mechanism was tested by using three-color fluorescence in situ hybridization to paint chromosomes and observe "three-color triplets": three broken and misrejoined chromosomes having cyclically permuted colors. We observed 18 "three-color triplets" in 2000 cells after 2.25 Gy of gamma-irradiation. On the exchange model in its standard form such three-color triplets cannot occur, so this model is inconsistent with the observations. On the classical model, formalized as a discrete time Markov chain embedded at the transitions of a continuous time Markov chain, the frequency of occurrence of three-color triplets can be computed by Monte Carlo simulations. The number of three-color triplets predicted mathematically by the classical model was found to be slightly larger than the observed number. Thus our data, together with our computer simulations, exclude the standard form of the exchange model but are compatible with the classical model. The results are also compatible with other, more complicated models.

<119>

Authors

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Title

A role for manganese superoxide dismutase in radioprotection of hematopoietic stem cells by interleukin-1.

Source

Blood. 81(3):639-46, 1993 Feb 1.

Abstract

Pretreatment with interleukin-1 (IL-1) has been shown to protect mice from the myelotoxicity associated with irradiation via a mechanism potentially mediated through the induction of the antioxidant enzyme manganese superoxide dismutase (MnSOD). In this study, we have compared the ability of IL-1 to induce MnSOD mRNA in murine bone marrow cells and human cell lines with its ability to protect these cells against the damaging effects of ionizing radiation. Bone marrow cells obtained from mice 6 hours after a single injection of IL-1 demonstrate a dose-dependent increase in the expression of MnSOD RNA. In this same study, IL-1 was also shown to be radioprotective when given to mice 20 hours before lethal irradiation. Similarly, in vitro treatment with IL-1 of bone marrow cells isolated from 5-fluorouracil-treated mice results in elevated levels of MnSOD RNA. Pretreatment with IL-1 also protected bone marrow long-term culture-initiating cells capable of reconstituting irradiated stromal cultures from an irradiation insult. Furthermore, IL-1-treated human bone marrow cells display both elevated MnSOD RNA and protein levels when compared with media controls. The human A375 melanoma, A549

adenocarcinoma, and factor-dependent TF-1 leukemic cell lines demonstrate low basal MnSOD RNA levels that increase following treatment with IL-1. For the A375 cells, this correlates with increased MnSOD protein expression and radioprotection by IL-1 using a colony assay. In contrast, the chronic myelogenous leukemic cell line, K562, displays a high basal MnSOD RNA level, and this RNA expression is not further increased by IL-1 treatment. In addition, these cells are comparatively radioresistant and are not further protected by IL-1 treatment. Finally, the Mo-7 cell line displays a low basal level of MnSOD RNA that correlates with a high sensitivity to irradiation and IL-1 pretreatment has no effect on MnSOD RNA levels. Our results indicate that increased radioprotection by IL-1 correlates with the induction of the antioxidant enzyme MnSOD and this induction may be an important factor in IL-1 radioprotection.

<120>

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Title

Role of tyrosine phosphorylation in radiation-induced activation of c-jun protooncogene in human lymphohematopoietic precursor cells.

Source

Cancer Research. 53(3):447-51, 1993 Feb 1.

Abstract

We examined the effects of ionizing radiation on c-jun expression in human lymphohematopoietic precursors. Radiation exposure increased the level of c-jun transcripts in a dose- and time-dependent manner, providing direct evidence that ionizing radiation can activate c-jun protooncogene in human lymphohematopoietic precursors. Notable gamma-rays failed to induce c-jun expression in cells pretreated with herbimycin, and the use of cycloheximide did not overcome the inhibitory effects of herbimycin. The lack of c-jun signal in herbimycin-treated cells was not due to nonspecific damage to the distal protein kinase C signaling pathway. Thus, protein tyrosine kinase activation precedes and perhaps mandates radiation-induced activation of c-jun protooncogene expression in human lymphohematopoietic precursors.

<121>

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Title

Tyrosine phosphorylation is a mandatory proximal step in radiation-induced activation of the protein kinase C signaling pathway in human B-lymphocyte precursors [published erratum appears in Proc Natl Acad Sci U S A 1993 Apr

15;90(8):3775].

Source

Proceedings of the National Academy of Sciences of the United States of America. 90(1):252-6, 1993 Jan 1.

Abstract

Ionizing radiation triggers a signal in human B-lymphocyte precursors that is intimately linked to an active protein-tyrosine kinase regulatory pathway. We show that in B-lymphocyte precursors, irradiation with gamma-rays leads to (i) stimulation of phosphatidylinositol turnover; (ii) downstream activation by covalent modification of multiple serine-specific protein kinases, including protein kinase C; and (iii) activation of nuclear factor kappa B. All of the radiation-induced signals were effectively prevented by the protein-tyrosine kinase inhibitors genistein and herbimycin A. Thus, tyrosine phosphorylation is an important and perhaps mandatory proximal step in the activation of the protein kinase C signaling cascade in human B-lymphocyte precursors. Our report expands current knowledge of the radiation-induced signaling cascade by clarifying the chronological sequence of biochemical events that follow irradiation.

<122>

Authors

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Title

Anticlastogenic effects of a polyvitamin product, 'Pharmavit', on gamma-ray induction of somatic and germ cell chromosome aberrations in the mouse.

Source

Mutation Research. 269(2):251-8, 1992 Oct.

Abstract

The polyvitamin product 'Pharmavit' (Pv), comprising vitamins A, D2, B1, B2, B6, C, E, nicotinamide, and calcium pantothenate, was tested for anticlastogenic properties against gamma-rays in mice. Pretreatment with Pv consisted of daily administration by gavage for 30 days at dose levels corresponding to clinical recommendations for an adult human, as recalculated in terms of mg/kg. Findings indicated a reduction of chromosome aberrations in bone marrow cells from mice exposed to 3.0 Gy ¹³⁷Cs gamma-rays; the reduction concerned predominantly fragments of the chromatid type. Furthermore, a reduction factor of 1.6 was obtained for the frequency of reciprocal translocations induced by spermatogonial irradiation in mice exposed to 4.0 Gy gamma-rays. Pretreatment with vitamin C alone, at the dose present in Pv, proved nearly ineffective in protecting from chromosome aberrations in bone marrow cells. Pharmavit is believed to be a promising agent for application to human populations exposed to the carcinogenic and genetic hazards of ionizing radiation.

<123>

Authors

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Title

Lack of adaptive response to low doses of ionizing radiation in human lymphocytes from five different donors.

Source

Mutation Research. 283(2):137-44, 1992 Oct.

Abstract

Various investigators reported a reduced yield of chromosome and chromatid aberrations in short-term cultures of human lymphocytes if a 'challenge' exposure to ionizing radiation was preceded by an 'adaptive' exposure. In order to examine the cell cycle dependence of the 'adaptive response', chromosome and chromatid aberration yields were estimated after challenge doses in the G1, S or G2 phase of lymphocytes which had been adapted in the early G1 phase. On testing two donors no protective adaptive response was found. Blood samples of four donors were tested for their capability to evoke the adaptive response in a standard experiment with the adaptive dose in the S phase and the challenge dose in the G2 phase. A synergistic response occurred in one out of two similar experiments performed with the same blood sample. The three other blood samples tested did not respond. Apparently these data indicate a high frequency of human lymphocyte cultures that do not display an adaptive response.

<124>

Authors

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Title

Repair of DNA damage induced by oxygen radicals in human non-proliferating and proliferating lymphocytes.

Source

Mutation Research. 274(2):103-10, 1992 Aug.

Abstract

Repair of DNA lesions induced by oxygen radicals, generated by xanthine/xanthine oxidase (X/XO), was studied in human peripheral blood lymphocytes and in PHA-stimulated proliferating lymphocytes from 4 healthy subjects. The lesions included DNA-strand breaks (SSB) and other lesions that are converted to SSB under alkaline conditions. The frequencies of SSB were estimated by fluorometric analysis of DNA unwinding. Maximum production of SSB occurred within 10 min of incubation with X/XO at 22 degrees C; with 0.5 mM or higher concentrations of xanthine; and with 0.1-0.5 units/ml of xanthine oxidase. Proliferating lymphocytes repaired X/XO-induced SSB about 4 times more rapidly than lymphocytes. Lymphocytes repaired X/XO-induced SSB more slowly than SSB caused by gamma-radiation. These findings are consistent with the evidence that a number of DNA-repair enzymes have greater activity in proliferating cells than in resting cells. These findings also support the view that there are differences between the DNA damage due to oxygen radicals and that due to ionizing radiation.

<125>

Authors

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Title

Quantitative detection of DNA damage in cells after exposure to ionizing radiation by means of an improved immunochemical assay.

Source

Mutation Research. 274(1):19-27, 1992 Jun.

Abstract

A simple, sensitive and fast immunochemical method has been developed to quantify the amount of DNA damage in cells of human blood after in vitro exposure to ionizing radiation. The technique is based on the enhancement of the radiation-induced single-strandedness, which occurs in DNA regions flanking strand breaks, by a controlled further unwinding of the DNA in an alkaline solution. Subsequently, the DNA is attached to the wall of polystyrene cups by passive adsorption. DNA damage is then quantified by determining the extent of single-strandedness with a monoclonal antibody, D1B, directed against single-stranded DNA. D1B binding is assayed with a 'second' antibody, labelled with either an enzyme or europium. The latter gives slightly more reproducible results. No radioactive labelling of DNA is required and the assay takes only 3.5 h after the collection of blood. Damage can be detected after doses as low as 0.5 Gy. The potential broader application of the method is discussed.

<126>

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Institution

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Title

Cytogenetic and survival adaptive responses in G1 phase human lymphocytes.

Source

Mutation Research. 265(2):273-81, 1992 Feb.

Abstract

Human lymphocytes from six donors were treated with 5 cGy of X-rays followed by 200 or 400 cGy in the first G1 phase after PHA stimulation, and assayed for cytogenetic aberrations and cell survival. Four donors showed cytogenetic adaptive responses with 400 cGy, and one with both 200 cGy and 400 cGy. Both exchanges and deletions were reduced, indicating that the cytogenetic adaptive response acts by restitution of chromosome breaks. Good correlations were found between nonaberrant cells and survival, although the former were often higher than the later, especially with the 400 cGy dose. In four of six donors, 5 cGy alone had significant effects on cell survival; however, this was independent of the 5 cGy effect on high-dose-induced responses. Two donors had survival adaptive responses with 5 + 200 cGy, while none were found with the 5 + 400 cGy

treatment. The comparisons between the cytogenetic and survival responses suggests that a survival adaptive response will only be seen with a sufficient increase in nonaberrant cells. To date, adaptive responses to ionizing radiation have been reported to occur in G0, G1 and late S/early G2 human lymphocytes.

<127>

Authors

Catena C. Conti D. Del Nero A. Righi E.

Institution

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Title

Inter-individual differences in radiation response shown by an in vitro micronucleus assay: effects of 3-aminobenzamide on X-ray treatment.

Source

International Journal of Radiation Biology. 62(6):687-94, 1992 Dec.

Abstract

Among the methods of biological dosimetry of ionizing radiation, we propose the cytokinesis-block micronucleus assay for the measurement of the individual dose absorbed. The dose-response curve was determined for in vitro-irradiated lymphocytes from 25 individuals. The dose-response relationship, fitted by the linear-quadratic function, was $F(MN) = 0.015 (+/- 0.0016) + 0.043 (+/- 0.0075).D + 0.083 (+/- 0.0045).D^2$. Our results are compared with those of other authors. 3-aminobenzamide (3AB) combined with X-rays were used to evaluate the micronucleus dose-response relationship in blood from 14 individuals. While it is known that 3AB inhibits poly(ADP-ribose) polymerase activity in vitro, we demonstrate that it also increases the X-ray-induced micronucleus yields. The resulting dose-response relationship varies from subject to subject. The possibility of using this approach to identify the individual radiosensitivity level is discussed.

<128>

Authors

Sikpi MO. Dry SM. Freedman ML. Lurie AG.

Institution

Department of Oral Diagnosis, School of Dental Medicine, University of Connecticut Health Center, Farmington 06030.

Title

Mutations caused by gamma-radiation-induced double-strand breaks in a shuttle plasmid replicated in human lymphoblasts.

Source

International Journal of Radiation Biology. 62(5):555-62, 1992 Nov.

Abstract

The mutagenicity of open-circular DNA (containing base damage and single-strand breaks) and linear DNA (containing base damage, single-strand breaks, and one double-strand break) produced in vitro by gamma-irradiation of shuttle vector pZ189, was analysed after the plasmid's repair and replication in the human lymphoblast line, GM606. By comparing the survival, mutation frequency, and types of mutations in

descendants from the two DNA forms, the effects of the double-strand break were determined. The percentage of viable plasmids from linear DNA was two-fold lower than that from open-circular DNA, 7.8 versus 14.0 (compared with unirradiated, control DNA). The mutation frequency in progenies of the open-circular plasmid was $4.2 \pm 1.7 \times 10^{-3}$, compared with $7.8 \pm 0.1 \times 10^{-3}$ in progenies of the linear DNA, again, nearly a two-fold difference. Approximately 59% of the mutations from the linear DNA were deletions and 34% were base substitutions. In contrast, only 13% of mutations from open-circular DNA were deletions, but 87% were base substitutions. All recoverable deletions were small, ranging from 1 to 205 base pairs, and the majority contained direct repeats at the deletion junctions, indicating non-homologous recombinations. Thus, mutations found among descendants from the linear and open-circular DNAs were qualitatively similar but quantitatively different. The data suggests that producing one double-strand break in DNA by ionizing radiation causes a two-fold increase in both lethality and mutation frequency.

<129>

Authors

Malyzhev VA. Gubrii IB. Sergeeva TA.

Title

[A possible role of neuroimmunoendocrine interactions and development of post-irradiation pathology]. [Russian]

Source

Radiobiologiya. 32(3):435-40, 1992 May-Jun.

Abstract

On the basis of the literature a postulate is proposed that the immune system contributes to regulating the intensity and direction of endocrine and nervous system functions in normal conditions and after the effect of ionizing radiation. The role of neuroimmunoendocrine interactions and their impairment in the realization of stochastic and nonstochastic sequelae of irradiation at various levels of radiation affecting the organism under normal conditions and in a combination with other unfavourable factors.

<130>

Authors

Hilali A. Leonard ED. Gerber GB. Leonard A.

Institution

Unite de Teratogenese et Mutagenese, Universite Catholique de Louvain, Bruxelles.

Title

[Study of possible influence of mixed lymphocyte reaction on experimental models used in biological dosimetry]. [French]

Source

Comptes Rendus des Seances de la Societe de Biologie et de Ses Filiales. 186(3):226-30, 1992.

Abstract

The study aimed to investigate whether "mixed lymphocyte reactions" could interfere with the results of experiments in which irradiated blood from

one person is mixed with non-irradiated blood from another. This experimental model had been designed to simulate, in vitro, non-homogeneous in vivo exposure such as could occur after accidents with ionizing radiation. The results show that the experimental models gives valid results for donors with related blood characteristics.

<131>

Authors

Sakhno TA.

Title

[The immune status of patients with neurocirculatory dystonia subjected to ionizing radiation exposure during the cleanup of the accident at the Chernobyl Atomic Electric Power Station]. [Russian]

Source

Vrachebnoe Delo. (5):20-3, 1992 May.

Abstract

The immune state of 77 cleanup workers of Chernobyl power plant accident suffering from vegetative dystonia was studied. The group of comparison consisted of 10 vegetative dystonia patients, who were not subjected to the ionizing radiation influence. The workers showed no specific changes of immunity, but immune state disturbances among them were more frequent and more pronounced than in ordinary vegetative dystonia patients.

<132>

Authors

Buatti JM. Rivero LR. Jorgensen TJ.

Institution

Department of Radiation Medicine, Vincent T. Lombardi Cancer Research Center, Georgetown University Medical Center, Washington, D.C. 20007.

Title

Radiation-induced DNA single-strand breaks in freshly isolated human leukocytes.

Source

Radiation Research. 132(2):200-6, 1992 Nov.

Abstract

Single-strand breaks are a major form of DNA damage caused by ionizing radiation, and measurement of strand breaks has long been used as an index of overall cellular DNA damage. Most assays for DNA single-strand breaks in cells rely on measuring fractionated DNA samples following alkali denaturation. Quantification is usually achieved by prelabeling cells with radioactive DNA precursors; however, this is not possible in the situation of nondividing cells or freshly isolated tissue. It has previously been demonstrated that the alkali unwinding assay of DNA strand breaks can be quantified by blotting the recovered DNA on nylon membranes and hybridizing with radiolabeled sequence-specific probes. We report here improvements to the technique, which include hot alkali denaturation of DNA samples prior to blotting and the use of carrier DNA that is non-complementary to the radiolabeled probe. Our method allows both single- and double-stranded DNA to be quantified with the same efficiency, thereby improving the sensitivity and reproducibility of the assay, and

allows calibration for determination of absolute levels of DNA strand breaks in cells. We also used this method to assay radiation-induced DNA strand breaks in freshly isolated human leukocytes and found them to have a strand break induction rate of 1815 strand breaks/cell/Gy.

<133>

Authors

Sanford KK. Parshad R. Price FM. Tarone RE. Kraemer KH.

Institution

Laboratory of Cellular and Molecular Biology, National Cancer Institute, Bethesda, Maryland 20892.

Title

Retinoid protection against x-ray-induced chromatid damage in human peripheral blood lymphocytes.

Source

Journal of Clinical Investigation. 90(5):2069-74, 1992 Nov.

Abstract

Oral administration of isotretinoin (13-cis retinoic acid) was shown previously (Kraemer, K. H., J. J. DiGiovanna, A. N. Moshell, R. E. Tarone, and G. L. Peck. 1988. N. Engl. J. Med. 318:1633-1637) to reduce the frequency of skin cancers in xeroderma pigmentosum (XP) patients. The mechanism of protection was unclear. In the present study, x-ray-induced chromatid damage in PHA-stimulated blood lymphocytes from five XP patients receiving isotretinoin was approximately half that in blood samples from the same patients before or subsequent to treatment. The x-ray-induced chromatid damage in blood lymphocytes from a normal control was reduced significantly by cocultivation with blood or plasma from an XP patient receiving isotretinoin or by addition of 10^{-6} M isotretinoin to cultures 1 h before x-irradiation. A similar reduction in x-ray-induced chromatid damage was reported previously by adding to the culture medium, mannitol, a scavenger of the free hydroxyl radical, or catalase, which decomposes hydrogen peroxide; both of these products are generated during ionizing radiation. The present observations suggest that isotretinoin acts as a scavenger of such radiation products, thereby providing protection against x-ray-induced chromatid damage.

<134>

Authors

Uckun FM. Tuel-Ahlgren L. Song CW. Waddick K. Myers DE. Kiriara J. Ledbetter JA. Schieven GL.

Institution

Section of Radiation Biology, University of Minnesota, Minneapolis 55455.

Title

Ionizing radiation stimulates unidentified tyrosine-specific protein kinases in human B-lymphocyte precursors, triggering apoptosis and clonogenic cell death.

Source

Proceedings of the National Academy of Sciences of the United States of America. 89(19):9005-9, 1992 Oct 1.

Abstract

Very little is known regarding the effects of ionizing radiation on cytoplasmic signal transduction pathways. Here, we show that ionizing radiation induces enhanced tyrosine phosphorylation of multiple substrates in human B-lymphocyte precursors. This response to ionizing radiation was also observed in cells pretreated with vanadate, a potent protein-tyrosine-phosphatase (PTPase) inhibitor, and phosphotyrosyl [Val5]angiotensin II phosphatase assays showed no decreased PTPase activity in irradiated cells. Thus, enhanced tyrosine phosphorylation in irradiated B-lymphocyte precursors is not triggered by inhibition of total cellular PTPase activity. Immune-complex kinase assays using anti-phosphotyrosine antibodies demonstrated enhanced protein-tyrosine kinase (PTK) activity in the immunoprecipitates from irradiated cells, and the PTK inhibitors genistein and herbimycin effectively prevented radiation-induced tyrosine phosphorylation. Immune-complex kinase assays on irradiated and unirradiated B-lymphocyte precursors using antibodies prepared against unique amino acid sequences of p59fyn, p56/p53lyn, p55blk, and p56lck demonstrated that these Src-family tyrosine kinases were not the primary PTKs responsible for enhanced tyrosine kinase activity in the anti-phosphotyrosine antibody immunoprecipitates or for enhanced tyrosine phosphorylation of multiple substrates. Thus, our findings favor the hypothesis that ionizing radiation induces enhanced tyrosine phosphorylation in B-lymphocyte precursors by stimulation of as yet unidentified PTKs. Tyrosine phosphorylation appears to be an important proximal step in radiation-induced apoptosis and clonogenic cell death because inhibition of PTK prevents DNA fragmentation and loss of clonogenicity of irradiated B-lymphocyte precursors. Since PTKs play myriad roles in the regulation of cell function and proliferation, the activation of a PTK cascade, as detailed in this report, may explain some of the pleiotropic effects of ionizing radiation on cellular functions of B-lymphocytes and their precursors.

<135>

Authors

Hlatky LR. Sachs RK. Hahnfeldt P.

Institution

Joint Center for Radiation Therapy, Harvard Medical School, Boston, Massachusetts 02115.

Title

The ratio of dicentrics to centric rings produced in human lymphocytes by acute low-LET radiation.

Source

Radiation Research. 129(3):304-8, 1992 Mar.

Abstract

Chromosome aberrations produced by ionizing radiation are assumed to develop from DNA double-strand breaks (DSBs) which interact pairwise, in an exchange event. Dicentrics and centric rings are aberrations that exemplify inter- and intrachromosomal exchanges, respectively. We show from a survey of published data that for acute low-LET irradiation of resting human lymphocytes the observed ratio of dicentrics to centric rings is approximately five times smaller than predicted by a pairwise

interaction model which assumes complete randomness. Such a low ratio can be interpreted as evidence for a proximity effect, favoring exchanges of an intrachromosomal type. That is, since DSBs induced close together have an above-average chance of pairwise interaction, the observed excess of centric rings indicates that at the time of irradiation there is some degree of spatial confinement for the two arms of a single chromosome. Assuming the excess of centric rings is indeed due to proximity effects, the data are used to estimate that the volume of a domain, within which any one lymphocyte chromosome is localized at one instant during the G0/G1 phase, is at most approximately 20% of the nuclear volume.

<136>

Authors

Krivenko SI. Dryk SI. Komarovskaya ME. Karkanitsa LV.

Institution

Byelorussian Institute of Hematology and Blood Transfusion, Minsk.

Title

Ionizing radiation increases TNF/cachectin production by human peripheral blood mononuclear cells in vitro.

Source

International Journal of Hematology. 55(2):127-30, 1992 Apr.

Abstract

Human peripheral blood mononuclear cells (PBMC) and monocytes produce a large amount of tumor necrosis factor/cachectin (TNF) in vitro. Our data suggest that X-irradiation can increase TNF production by these cells. After 900 cGy irradiation there were 7-fold (24 h incubation) and 2.3-fold (48 h incubation) increases of TNF production by stimulated PBMC. The irradiation also increased TNF production by both stimulated and unstimulated human monocytes. These findings suggest that TNF overproduction can play an important role in the pathogenesis of radiation disease.

<137>

Authors

Cremer C. Remm B. Bischoff A. Vollweiler T.

Institution

Institute of Applied Physics, University Heidelberg, Germany.

Title

Automated detection of radiation-induced chromosome aberrations following fluorescence in situ hybridization.

Source

Journal of Radiation Research. 33 Suppl:189-205, 1992 Mar.

Abstract

The cytogenetic detection of rare chromosome aberrations induced by ionizing radiation requires the evaluation of large numbers of cells. In this report, an image analysis program based on thresholding of grey level histograms is described for a rapid automated detection of chromosome translocations in metaphase spreads from human lymphocytes following irradiation and chromosome in situ suppression (CISS) fluorescence in situ hybridization (FISH). To classify a metaphase spread as "normal",

"aberrant", or "excluded", a minimum medium time of less than two seconds was required on a general purpose Personal Computer. Using appropriately stained specimen, for the false classification rate an upper limit of about 10% was estimated. The upper limit for the rate of "excluded" cells was estimated to be about 11% (99% confidence ranges). FISH-procedures allow to score chromosome aberrations also in the interphase nucleus. To apply simple threshold algorithms for segmentation of the FISH-stained nuclear areas, it is required that the grey level contrast is sufficiently high. The preliminary results presented here on the image analysis of human lymphocyte nuclei suggest the feasibility of such an approach.

<138>

Authors

Spitkovskii DM.

Title

[Concept of the effect of low doses of ionizing radiation on cells and its possible use in the interpretation of medical-biological consequences].

[Review] [Russian]

Source

Radiobiologiya. 32(3):382-400, 1992 May-Jun.

Abstract

A concept is proposed where the events induced by low doses of ionizing radiation with low linear energy transfer have different script than those induced by high doses. Its essence consist in the existence of a small fraction (subpopulation) in clonal heterogeneous population whose cells are determined for a specific programmed response induced by a number of action that are potentially able (at high doses) to decrease the survival of the given population. The function of the postulated cell is a deliberate sacrifice necessary for formation of evolutionary reserve. A mechanism of this response is based on an autogeneration of wide-scale genome rearrangements in cells and is not connected with direct influence of genetically hazardous agents on DNA. This leads to arising of a number of genetic variants (evolutionary reserve cells). Selection among them enhancing survival of the population may in the same time lead to harmful consequences for the organism (if there are malfunctions of the immune system). Medical-biological consequences of the effect of low doses are associated with the appearance of such clones and biologically active products secreted from the exposed cells. Mechanisms responsible for the above phenomena are discussed. [References: 95]

<139>

Authors

Maillie HD. Baker JV. Watts RJ. Quinn BR.

Institution

Department of Biophysics, University of Rochester, NY 14642.

Title

A means of retaining chromosome damage in irradiated human lymphocytes.

Source

Health Physics. 63(3):349-51, 1992 Sep.

Abstract

The method of premature chromosome condensation has been used to determine the damage induced by ionizing radiation to chromosomes in G1 human lymphocytes. The method has also demonstrated the repair of such damage with time following exposure. This study shows how storage at a cold temperature can be used to retain this damage for further biodosimetric study.

<140>

Authors

Sikpi MO. Freedman ML. Dry SM. Lurie AG.

Institution

Department of Oral Diagnosis, School of Dental Medicine, University of Connecticut Health Center, Farmington 06030.

Title

Mutation spectrum in gamma-irradiated shuttle vector replicated in ataxia-telangiectasia lymphoblasts.

Source

Radiation Research. 130(3):331-9, 1992 Jun.

Abstract

Cells from ataxia-telangiectasia (AT) patients are hypersensitive to the lethal effects of ionizing radiation. To assess radiation mutagenesis in these cells, the SV40-based shuttle vector, pZ189, was used to analyze gamma-ray-induced mutations following the plasmid's replication in AT lymphoblasts. Progenies from the AT line GM2783 exposed to 50 Gy showed a mutation frequency of 7.6×10^{-3} , 63-fold over background; surviving plasmids were 3.4% of control. Both values were essentially the same as those of irradiated plasmids replicated in a normal lymphoblast line, GM606. In addition, pZ189 exposed to 25 Gy of gamma radiation and replicated in another normal lymphoblast line and in cells of two additional AT lymphoblast lines showed similar mutation frequencies and percentages of surviving plasmids. Qualitative comparison of plasmid mutations from AT and normal cells showed no significant differences, indicating that the damaged DNA was repaired with similar fidelity in AT and normal cells. These studies suggest that there is no correlation between the enhanced sensitivity of AT cells to killing by ionizing radiation and gamma-radiation-induced mutagenesis of plasmid DNA processed in these cells.

<141>

Authors

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Title

Evolution of DNA damage in irradiated cells.

Source

Journal of Mathematical Biology. 30(5):493-511, 1992.

Abstract

Ionizing radiation damage to a mammalian genome is modeled using

continuous time Markov chains. Models are given for the initial infliction of DNA double strand breaks by radiation and for the enzymatic processing of this initial damage. Damage processing pathways include DNA double strand break repair and chromosome exchanges. Linear, saturable, or inducible repair is considered, competing kinetically with pairwise interactions of the DNA double strand breaks. As endpoints, both chromosome aberrations and the inability of cells to form clones are analyzed. For the post-irradiation behavior, using the discrete time Markov chain embedded at transitions gives the ultimate distribution of damage more simply than does integrating the Kolmogorov forward equations. In a representative special case explicit expressions for the probability distribution of damage at large times are given in the form used for numerical computations and comparisons with experiments on human lymphocytes. A principle of branching ratios, that late assays can only measure appropriate ratios of repair and interaction functions, not the functions themselves, is derived and discussed.

<142>

Authors

Nordenson I. Ritter B. Beckman A. Beckman L.

Institution

Department of Medical Genetics, University of Umea, Sweden.

Title

Idiopathic hemochromatosis and chromosomal damage.

Source

Human Heredity. 42(2):143-5, 1992.

Abstract

Spontaneous and radiation-induced chromosome damage in cultured lymphocytes was examined in a pilot study of 11 patients with idiopathic hemochromatosis and matched controls. Increased frequencies of chromosome breaks were found in the patients, both spontaneously and after exposure to ionizing radiation, but the differences between patients and controls were not statistically significant (p greater than 0.05) when individual data were analyzed. When pooled (group) data for patients and controls were compared, significant increases in spontaneous and radiation-induced chromosome breaks were found among the patients. The results suggest that iron overload may lead to chromosome damage in idiopathic hemochromatosis.

<143>

Authors

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Division of Biochemistry and Molecular Biology, University of California, Berkeley 94720.

Title

Endogenous oxidative damage of deoxycytidine in DNA.

Source

Proceedings of the National Academy of Sciences of the United States of America. 89(8):3380-4, 1992 Apr 15.

Abstract

Three major oxidation products of 2'-deoxycytidine (dC)--5-hydroxy-2'-deoxycytidine (oh5dC), 5-hydroxy-2'-deoxyuridine (oh5dU), and 5,6-dihydroxy-5,6-dihydro-2'-deoxyuridine (dUg)--were analyzed from enzymatically hydrolyzed DNA with reversed-phase high-performance liquid chromatography coupled to electrochemical detection. oh5dC and oh5dU can be detected with high sensitivity (50 fmol) and selectivity (0-0.2 V) from hydrolyzed DNA. dUg is not electrochemically active but can be measured by dehydrating it into oh5dU. The quantities of oh5dC, dUg, and oh5dU in untreated commercial-grade calf thymus DNA are 10, 10, and 0.75 fmol/micrograms of DNA, respectively. These levels increased substantially when calf thymus DNA was exposed to ionizing radiation, H₂O₂ alone, H₂O₂ and combinations of Fe³⁺ or Cu²⁺ and ascorbate, near-UV light (365 nm), near-UV light in the presence of menadione, and OsO₄, indicating that oh5dC, oh5dU, and dUg are major oxidative DNA damage products. The steady-state levels of these products were determined from freshly extracted rat tissues and ranged from less than 0.5 fmol/micrograms of DNA for oh5dU to about 10 fmol/micrograms of DNA for oh5dC and dUg in liver and kidney and 22 fmol/micrograms of DNA for oh5dC in brain. The levels of oxo8dG were also determined and in general were somewhat lower than the levels of oh5dC. These findings reinforce the link between DNA damage induced by oxidative metabolism and spontaneous mutagenesis leading to cancer and aging.

<144>

Authors

van Loon AA. Timmerman AJ. van der Schans GP. Lohman PH. Baan RA.

Institution

TNP Medical Biological Laboratory, Rijswijk, The Netherlands.

Title

Different repair kinetics of radiation-induced DNA lesions in human and murine white blood cells.

Source

Carcinogenesis. 13(3):457-62, 1992 Mar.

Abstract

Exposure of cells to ionizing radiation gives rise to DNA damage, comprising strand breaks and base modifications. All these lesions may contribute to cell death, mutagenesis and/or carcinogenesis, but their relative contributions are likely to be different. It is important, therefore, to study the various damages with respect to their abundance and persistence. To detect radiation-induced DNA damage, the alkaline-elution technique was applied. In a flanking comparative study, a newly developed immunochemical assay was used. Mice were irradiated with X-rays (8 or 12 Gy) and killed at different time intervals after the irradiation. Total white blood cells and bone-marrow were isolated, and the different types of DNA damage determined. Murine blood and bone-marrow cells, as well as human blood, were irradiated in vitro and subsequently incubated at 37 degrees C for different time periods, followed by analysis of radiation-induced DNA damage. Also, white blood cells from leukemia patients receiving chemo- and radiotherapy (total-body irradiation) were investigated, to study the in vivo induction and repair of DNA lesions in

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AN 92333147. 92104.

AU Arata-L-A.

TI Chicken Little at *Three* *Mile* *Island* `editorial:.

SO J-Indiana-State-Med-Assoc. 1979 Nov. 72(11). P 813.

JT JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION.

PT EDITORIAL (EDI).

LG English (EN).

MJ ACCIDENTS. NUCLEAR-REACTORS. POWER-PLANTS.

MN PENNSYLVANIA.

YR 1979.

IS 0019-6770. IGN.

CP UNITED-STATES (Z1.107.567.875).

IM 9210.

ND ENTRY DATE: 920817.

2

AN 92183264. 92063.

AU Eagle-C-J. Davies-J-M. Reason-J.

IN Department of Anaesthesia, Foothills Hospital, University of Calgary, Alberta, Canada.

TI Accident analysis of large-scale technological disasters applied to an anaesthetic complication `see comments:.

CM Comment in: Can J Anaesth 1992 Feb;39(2):110-3.

SO Can-J-Anaesth. 1992 Feb. 39(2). P 118-22.

JT CANADIAN JOURNAL OF ANAESTHESIA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The occurrence of serious accidents in complex industrial systems such as at *Three* *Mile* *Island* and Bhopal has prompted development of new models of causation and investigation of disasters. These analytical models have potential relevance in anaesthesia. We therefore applied one of the previously described systems to the investigation of an anaesthetic accident. The model chosen describes two kinds of failures, both of which must be sought. The first group, active failures, consists of mistakes made by practitioners in the provision of care. The second group, latent failures, represents flaws in the administrative and productive system. The model emphasizes the search for latent failures and shows that prevention of active failures alone is insufficient to avoid further accidents if latent failures persist unchanged. These key features and the utility of this model are illustrated by application to a case of aspiration of gastric contents. While four active failures were recognized, an equal number of latent failures also became apparent. The identification of both types of failures permitted the

formulation of recommendations to avoid further occurrences. Thus this model of accident causation can provide a useful mechanism to investigate and possibly prevent anaesthetic accidents.

Author-abstract.

MJ ACCIDENTS: statistics-and-numerical-data (sn). ANESTHESIA: adverse-effects(ae). MODELS-STATISTICAL. PROCESS-ASSESSMENT-HEALTH-CARE.
MN AGED. ANESTHESIA-GENERAL: adverse-effects (ae). ANESTHESIA-LOCAL. CASE-REPORT. CYSTOSCOPY. DECISION-MAKING. FASTING. HUMAN. MALE. MEDICAL-RECORDS. OPERATING-ROOMS: organization-and-administration (og). PNEUMONIA-ASPIRATION: etiology (et). PREOPERATIVE-CARE. RISK-MANAGEMENT. VOMITING.
SB Priority Journals (M).
YR 1992.
IS 0832-610X. C8L.
CP CANADA (Z1.107.567.176).
IM 9206.
ND ENTRY DATE: 920410.

3

AN 91260839. 91000.
AU Pool-R.
TI *Three* *Mile* *Island.* A stress-cancer link following accident? `news:.
SO Nature. 1991 Jun 6. 351(6326). P 429.
JT NATURE.
PT NEWS (NEW).
LG English (EN).
MJ ACCIDENTS. NEOPLASMS: epidemiology (ep). NUCLEAR-REACTORS.
MN HUMAN. NEOPLASMS: etiology (et). NEOPLASMS-RADIATION-INDUCED: epidemiology (ep). STRESS: complications (co). UNITED-STATES.
SB Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0028-0836. NSC.
CP ENGLAND (Z1.542.363.300).
IM 9109.
ND ENTRY DATE: 910712.

4

AN 91229143. 91000.
AU Hatch-M-C. Wallenstein-S. Beyea-J. Nieves-J-W. Susser-M.
IN Division of Epidemiology, Columbia University, School of Public Health, New York, NY 10032.
TI Cancer rates after the *Three* *Mile* *Island* nuclear accident and proximity of residence to the plant.
SO Am-J-Public-Health. 1991 Jun. 81(6). P 719-24.
JT AMERICAN JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND: In the light of a possible link between stress and cancer promotion or progression, and of previously reported distress in

residents near the *Three* *Mile* *Island* (TMI) nuclear power plant, we attempted to evaluate the impact of the March 1979 accident on community cancer rates. METHODS: Proximity of residence to the plant, which related to distress in previous studies, was taken as a possible indicator of accident stress; the postaccident pattern in cancer rates was examined in 69 "study tracts" within a *10-mile* radius of TMI, in relation to residential proximity. RESULTS: A modest association was found between postaccident cancer rates and proximity (OR = 1.4; 95% CI = 1.3, 1.6). After adjusting for a gradient in cancer risk prior to the accident, the odds ratio contrasting those closest to the plant with those living farther out was 1.2 (95% CI = 1.0, 1.4). A postaccident increase in cancer rates near the *Three* *Mile* *Island* plant was notable in 1982, persisted for another year, and then declined. Radiation emissions, as modeled mathematically, did not account for the observed increase. CONCLUSION: Interpretation in terms of accident stress is limited by the lack of an individual measure of stress and by uncertainty about whether stress has a biological effect on cancer in humans. An alternative mechanism for the cancer increase near the plant is through changes in care-seeking and diagnostic practice arising from postaccident concern. Author-abstract.

MJ NEOPLASMS: epidemiology (ep). NUCLEAR-ENERGY. POWER-PLANTS. RESIDENCE-CHARACTERISTICS. STRESS-PSYCHOLOGICAL: epidemiology (ep). MN BIAS-EPIDEMIOLOGY. EDUCATIONAL-STATUS. HUMAN. INCIDENCE. INCOME. MODELS-STATISTICAL. NEOPLASMS: classification (cl), mortality (mo). ODDS-RATIO. PENNSYLVANIA: epidemiology (ep). RADIOACTIVE-POLLUTANTS: adverse-effects (ae). SUPPORT-NON-U-S-GOVT. SB Abridged Index Medicus Journals (A). Priority Journals (M). YR 1991. IS 0090-0036. 3XW. CP UNITED-STATES (Z1.107.567.875). IM 9108. ND ENTRY DATE: 910613.

5

AN 91203110. 91000. AU Prince-Embury-S. Rooney-J-F. IN Department of Outpatient Psychiatry, Jersey Shore Medical Center. TI Life stage differences in resident coping with restart of the *Three* *Mile* *Island* nuclear generating facility. SO J-Soc-Psychol. 1990 Dec. 130(6). P 771-9. JT JOURNAL OF SOCIAL PSYCHOLOGY. PT JOURNAL-ARTICLE (ART). LG English (EN). AB A study of residents who remained in the vicinity of *Three* *Mile* *Island* (TMI) immediately following the restart of the nuclear generating plant revealed that older residents employed a more emotion-focused coping style in the face of this event than did younger residents. Coping style was, however, unrelated to the level of psychological symptoms for these older residents, whereas

demographic variables were related. Among younger residents, on the other hand, coping style was related to the level of psychological symptoms, whereas demographic variables were not. Among younger residents, emotion-focused coping was associated with more symptoms and problem-focused coping was associated with fewer symptoms, contradicting previous findings among TMI area residents.

Author-abstract.

MJ ACCIDENTS: psychology (px). ADAPTATION-PSYCHOLOGICAL. AGING: psychology (px). NUCLEAR-REACTORS. POWER-PLANTS.
MN ADOLESCENCE. ADULT. AGED. FEMALE. HUMAN. MALE. MIDDLE-AGE. PENNSYLVANIA. RISK-FACTORS.
YR 1990.
IS 0022-4545. K5J.
CP UNITED-STATES (Z1.107.567.875).
IM 9107.
ND ENTRY DATE: 910522.

6

AN 91138577. 91000.
AU Baum-A.
IN Department of Medical Psychology, Uniformed Services University of the Health Sciences, Bethesda, MD 20814-4799.
TI Stress, intrusive imagery, and chronic distress.
SO Health-Psychol. 1990. 9(6). P 653-75.
JT HEALTH PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Discusses the nature of stress in the context of problems with its definition and sources of confusion regarding its usefulness and specificity. Stress can be defined as a negative emotional experience accompanied by predictable biochemical, physiological, and behavioral changes that are directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating its effects. Chronic stress is more complex than most definitions suggest and is clearly not limited to situations in which stressors persist for long periods of time. Responses may habituate before a stressor disappears or may persist long beyond the physical presence of the stressor. This latter case, in which chronic stress and associated biobehavioral changes outlast their original cause, is considered in light of research at *Three* *Mile* *Island* and among Vietnam veterans. The role of intrusive images of the stressor or uncontrollable thoughts about it in maintaining stress is explored.
Author-abstract.
MJ ADAPTATION-PSYCHOLOGICAL. AROUSAL. IMAGINATION. STRESS-DISORDERS-POST-TRAUMATIC: psychology (px). STRESS-PSYCHOLOGICAL: complications (co).
MN ACCIDENTS: psychology (px). COMBAT-DISORDERS: psychology (px). HUMAN. MALE. NUCLEAR-REACTORS. SUPPORT-U-S-GOVT-NON-P-H-S. VETERANS: psychology (px). VIETNAM.
SB Priority Journals (M).

YR 1990.
IS 0278-6133. EJJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910327.

7

AN 91135803. 91000.
AU Houts-P-S. Tokuhata-G-K. Bratz-J. Bartholomew-M-J. Sheffer-K-W.
IN Department of Behavioral Science, Pennsylvania State University
College of Medicine, Hershey 17033.
TI Effect of pregnancy during TMI crisis on mothers' mental health and
their child's development.
SO Am-J-Public-Health. 1991 Mar. 81(3). P 384-6.
JT AMERICAN JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Five years after the *Three* *Mile* *Island* nuclear accident, the mental
health of women who had been pregnant and living within 10 *miles* of
Three *Mile* *Island* at the time of the accident was similar to that of
women from the same area who became pregnant after the accident.
Ratings of the development of the two groups of children when they
were 5 years old were also similar. However, women who were pregnant
during the crisis and had been "extremely disturbed" about their
pregnancies rated their children's health as poorer than did the
women who were pregnant later. Author-abstract.
MJ ACCIDENTS. AIR-POLLUTANTS-RADIOACTIVE: adverse-effects (ae).
CHILD-DEVELOPMENT: radiation-effects (re). MOTHERS: psychology (px).
NUCLEAR-REACTORS. PREGNANCY: radiation-effects (re).
MN CHILD-PRESCHOOL. FEMALE. FOLLOW-UP-STUDIES. HEALTH-STATUS. HUMAN.
MENTAL-HEALTH. PENNSYLVANIA. SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910320.

8

AN 91100676. 91000.
AU Pearlman-R-A.
IN Seattle Veterans Affairs Medical Center, WA 98108.
TI Clinical fallout from the Supreme Court decision on Nancy Cruzan:
Chernobyl or *Three* *Mile* *Island?*SO J-Am-Geriatr-Soc. 1991 Jan. 39(1). P 92-7.
JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMA: therapy (th). RIGHT-TO-DIE: legislation-and-jurisprudence
(lj).

MN ADULT. CASE-REPORT. ENTERAL-NUTRITION. FEMALE. FORECASTING.
GASTROSTOMY. GERIATRICS. HUMAN. LIVING-WILLS:
legislation-and-jurisprudence (lj). MISSOURI.
ORGANIZATIONAL-POLICY. SOCIETIES-MEDICAL. UNITED-STATES.
SB Priority Journals (M).
YR 1991.
IS 0002-8614. H6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910221.
CLASS UPDATE: 91.

9

AN 91054024. 91000.
AU McKlveen-J-W.
IN Arizona State University, Tempe 85284-5706.
TI Current status of nuclear power in the United States and around the
world.
SO Australas-Phys-Eng-Sci-Med. 1990 Sep. 13(3). P 101-9.
JT AUSTRALASIAN PHYSICAL AND ENGINEERING SCIENCES IN MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Nuclear energy's share of the world electricity market has been
growing over the past 35 years. In 1989, eight generating units
entered commercial operation abroad and *three* new units were licensed
in the U.S. In early 1990, Mexico became the 26th country to produce
electricity from nuclear power. Currently the 426 operating reactors
supply one sixth of the world's total electrical capacity. Fourteen
countries have now operated nuclear plants for 20 or more years.
Since 1980, France has been the leader in the use of nuclear power
and currently generates *three* quarters of its electricity from 54
nuclear plants. The U.S. has 112 nuclear plants, the largest number
of any country in the world. These plants satisfy almost 20 percent
of U.S. electrical energy requirements. Last year *Three* *Mile*
Island, the would-be icon for everything that is wrong with the
nuclear industry was rated as the most efficient nuclear plant in the
world. The worldwide trend toward acceptance of nuclear is improving
slightly, but many political and societal issues need to be resolved.
Whereas recent polls indicate that a majority of the people realize
nuclear must be a major contributor to the energy mix of the future,
many are reluctant to support the technology until the issue of waste
disposal has been resolved. Fears of another Chernobyl, lack of
capital, and a new anti-nuclear campaign by Greenpeace will keep the
nuclear debate alive in many countries. Additional stumbling blocks
in the U.S. include the need to develop a new generation of improved
reactor designs which emphasize passive safety features, standardized
designs and a stream-lined federal licensing process. Nuclear power
is really not dead. Even environmentalists are starting to give it
another look. A nuclear renaissance will occur in the U.S. How soon
or under what conditions remain to be seen. The next crisis in the

U.S. will not be a shortage of energy, rather a shortage of electricity.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract. 42 Refs.

MJ NUCLEAR-ENERGY: statistics-and-numerical-data (sn).
MN ASIA. CANADA. EUROPE. RADIOACTIVE-WASTE. UNITED-STATES. USSR.
YR 1990.
IS 0158-9938. 9GH.
CP AUSTRALIA (Z1.338).
IM 9102.
ND ENTRY DATE: 901207.

10

AN 90358179. 90000.
AU Hatch-M-C. Beyea-J. Nieves-J-W. Susser-M.
IN Div. of Epidemiology, Columbia U. School of Public Health, New York, NY 10032.
TI Cancer near the *Three* *Mile* *Island* nuclear plant: radiation emissions.
SO Am-J-Epidemiol. 1990 Sep. 132(3). P 397-412; discussion 413-7.
JT AMERICAN JOURNAL OF EPIDEMIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB As a public charge, cancers among the 159,684 residents living within a *10-mile* (16-km) radius of the *Three* *Mile* *Island* nuclear plant were studied relative to releases of radiation during the March 28, 1979, accident as well as to routine plant emissions. The principal cancers considered were leukemia and childhood malignancies. Estimates of the emissions delivered to small geographic study tracts were derived from mathematical dispersion models which accounted for modifying factors such as wind and terrain; the model of accident emissions was validated by readings from off-site dosimeters. Incident cancers among area residents for the period 1975-1985 (n = 5,493) were identified by a review of the records at all local and regional hospitals; preaccident and postaccident trends in cancer rates were examined. For accident emissions, the authors failed to find definite effects of exposure on the cancer types and population subgroups thought to be most susceptible to radiation. No associations were seen for leukemia in adults or for childhood cancers as a group. For leukemia in children, the odds ratio was raised, but cases were few (n = 4), and the estimate was highly variable. Moreover, rates of childhood leukemia in the *Three* *Mile* *Island* area are low compared with national and regional rates. For exposure to routine emissions, the odds ratios were raised for childhood cancers as a whole and for childhood leukemia, but confidence intervals were wide and included 1.0. For leukemia in adults, there was a negative trend. Trends for two types of cancer ran counter to expectation. Non-Hodgkin's lymphoma showed raised risks relative to both accident and routine emissions; lung cancer (adjusted only indirectly for smoking) showed raised risks relative to accident emissions, routine emissions, and background gamma radiation. Overall, the pattern of results does not provide

convincing evidence that radiation releases from the *Three* *Mile*
Island nuclear facility influenced cancer risk during the limited
period of follow-up. Author-abstract.

MJ AIR-POLLUTANTS: adverse-effects (ae). AIR-POLLUTANTS-RADIOACTIVE:
adverse-effects (ae). LEUKEMIA-RADIATION-INDUCED: epidemiology (ep).
NEOPLASMS: etiology (et). NUCLEAR-REACTORS.
MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL.
ENVIRONMENTAL-EXPOSURE. EPIDEMIOLOGIC-METHODS. HUMAN. INFANT.
NEOPLASMS: epidemiology (ep). PENNSYLVANIA. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0002-9262. 3H3.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900927.
CLASS UPDATE: 90.

11

AN 90059853. 90000.
AU McKinnon-W. Weisse-C-S. Reynolds-C-P. Bowles-C-A. Baum-A.
IN Uniformed Services University of the Health Sciences, Bethesda, MD
20814-4799.
TI Chronic stress, leukocyte subpopulations, and humoral response to
latent viruses.
SO Health-Psychol. 1989. 8(4). P 389-402.
JT HEALTH PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Psychological stress has been shown to affect immune system status
and function, but most studies of this relationship have focused on
acute stress and/or laboratory situations. The present study
compared total numbers of leukocytes and lymphocyte subpopulations
(determined by flow cytometry) and antibody titers to latent and
nonlatent viruses among a group of chronically stressed individuals
living near the damaged *Three* *Mile* *Island* (TMI) nuclear power plant
with those of a demographically comparable control group. Urinary
catecholamine and cortisol levels were also examined. Residents of
the TMI area exhibited greater numbers of neutrophils, which were
positively correlated with epinephrine levels. The TMI group also
exhibited fewer B lymphocytes, T-suppressor/cytotoxic lymphocytes,
and natural killer cells. Antibody titers to herpes simplex were
significantly different across groups as well, whereas titers to
nonlatent rubella virus as well as IgG and IgM levels were
comparable. Author-abstract.
MJ ANTIBODIES-VIRAL: analysis (an). AROUSAL: physiology (ph).
HERPES-SIMPLEX: immunology (im). HERPESVIRUS-HOMINIS: immunology
(im). LEUKOCYTE-COUNT. STRESS-PSYCHOLOGICAL: complications (co).
MN ACCIDENTS. ADULT. DISEASE-SUSCEPTIBILITY: immunology (im). HUMAN.
IMMUNE-TOLERANCE. LEUKOCYTES: immunology (im).
LONGITUDINAL-STUDIES. MARYLAND. NUC^...Aa^-(¥-,tÆ,ÿDÑu°ÅJU ™òT8ë~FXÉ

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 TI Potassium iodide as a thyroid *blocker--Three* *Mile* *Island* to today.
 SO DICP. 1989 May. 23(5). P 422-7.
 JT DICP.
 PT JOURNAL-ARTICLE (ART).
 LG English TRHêºÚ>Í#^U<fáp̃g-S:UÆ ?èw3 É^[ðZ[¼ó(Ã-_1I; nuc>ÅK,,YR¹T-kV/HZ. the
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 1979 markedøl industry, the Food and Drug Administration directed
 the manufacture and stockpiling of sufficient quantities of saturated
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 million people in the event of a large-scale release of radioiodines.
 Although the drug was not used, the experience of producing,
 stockpiling, and making ready for use a large quantity of the drug
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 rjðèýýýQ%byongitudinal study of appraisal at *Three* *Mile* *Island:* implications
 for life event research.
 SO Soc-Sci-Med. 1989. 28(4). P 389-98.
 JT SOCIAL SCIENCE AND MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This study tests a path model which indicates the occurrence of
 appraisal following the accident at *Three* *Mile* *Island* (TMI). The
 model posits a causal relationship between trust in TMI-related
 authorities, perceived danger, perceived harm to health, and
 psychological distress. The implications of the findings for life
 event research are discussed in terms of the etiological significance
 of meaning, event consequences, and control. Author-abstract.
 MJ ACCIDENTS. LIFE-CHANGE-EVENTS. NUCLEAR-REACTORS. POWER-PLANTS.
 MN ADULT. ATTITUDE-TO-HEALTH. FEMALE. HUMAN. LONGITUDINAL-STUDIES.
 MALE. MIDDLE-AGE. PENNSYLVANIA. RADIATION-INJURIES: psychology
 (px). RISK-FACTORS.
 SB Priority Journals (M).
 YR 1989.
 IS 0277-9536. UT9.
 CP ENGLAND (Z1.542.363.300).
 IM 8907.
 ND ENTRY DATE: 890515.

15

AN 89179952. 89000.
 AU Prince-Embury-S. Rooney-J-F.
 TI Psychological symptoms of residents in the aftermath of the *Three*
 Mile *Island* nuclear accident and restart.
 SO J-Soc-Psychol. 1988 Dec. 128(6). P 779-90.
 JT JOURNAL OF SOCIAL PSYCHOLOGY.

PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ACCIDENTS. NUCLEAR-REACTORS. POWER-PLANTS.
 STRESS-DISORDERS-POST-TRAUMATIC: psychology (px).
 MN ADAPTATION-PSYCHOLOGICAL. FEMALE. HUMAN. MALE. MIDDLE-AGE.
 PENNSYLVANIA.
 YR 1988.
 IS 0022-4545. K5J.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8907.
 ND ENTRY DATE: 890504.

16

AN 89166966. 89000.
 AU Horowitz-J. Stefanko-M.
 IN Psychology Department, Claremont Graduate School, California.
 TI Toxic waste: behavioral effects of an environmental stressor.
 SO Behav-Med. 1989 Spring. 15(1). P 23-8.
 JT BEHAVIORAL MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This study examines the stress-related behavioral effects that may be associated with living near an ambient stressor: a toxic-waste landfill. Results are based on a telephone survey of 426 persons living in *three* distance strata from the landfill (within 1 1/2 *miles,* 1 1/2 to 5 *miles,* and 5 to 10 *miles*).* The instrument was adapted from the Hopkins Life Checklist (SCL-90) and from surveys used by researchers studying the effects of the *Three* *Mile* *Island* nuclear accident. No significant differences were found across area or amount of stimuli exposure on the dependent variables of bodily effects, anger-hostility, and demoralization. Scattered effects across age, sex, educational level, and home ownership (v rental) occurred; however, these could not be attributed solely to the landfill. Author-abstract.
 MJ ATTITUDE-TO-HEALTH. HAZARDOUS-SUBSTANCES: poisoning (po).
 HAZARDOUS-WASTE: adverse-effects (ae). SOCIAL-ENVIRONMENT.
 MN ADAPTATION-PSYCHOLOGICAL. ADULT. CALIFORNIA. FEMALE. HUMAN.
 MALE. RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S.
 SB Priority Journals (M).
 YR 1989.
 IS 0896-4289. BEH.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8907.
 ND ENTRY DATE: 890505.
 NO 1R03MH3974501.

17

AN 89159394. 89000.
 AU Shulman-S.
 TI Legacy of *Three* *Mile* *Island* `news:.

SO Nature. 1989 Mar 16. 338(6212). P 190.
JT NATURE.
PT NEWS (NEW).
LG English (EN).
MJ ACCIDENTS. NUCLEAR-REACTORS.
MN PENNSYLVANIA. RADIOACTIVE-WASTE.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0028-0836. NSC.
CP ENGLAND (Z1.542.363.300).
IM 8906.
ND ENTRY DATE: 890417.
CLASS UPDATE: 91.

18

AN 89116420. 89000.
AU Reilly-M-A.
TI Radiation accident response in Pennsylvania. Changes since *Three*
Mile *Island*.
SO Ala-J-Med-Sci. 1988 Oct. 25(4). P 448-52.
JT ALABAMA JOURNAL OF MEDICAL SCIENCES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ACCIDENTS. DISASTER-PLANNING: trends (td).
EMERGENCY-MEDICAL-SERVICES: organization-and-administration (og).
NUCLEAR-REACTORS. RADIATION-INJURIES.
MN DATA-COLLECTION. HUMAN. PENNSYLVANIA.
YR 1988.
IS 0002-4252. 35H.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890309.

19

AN 89061167. 89000.
AU Howe-H-L.
IN Illinois Department of Public Health, Springfield.
TI A comparison of actual and perceived residential proximity to toxic
waste sites.
SO Arch-Environ-Health. 1988 Nov-Dec. 43(6). P 415-9.
JT ARCHIVES OF ENVIRONMENTAL HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Studies of Memphis and *Three* *Mile* *Island* have noted a positive
association between actual residential distance and public concern
about exposure to the potential of contamination, whereas none was
found at Love Canal. In this study, concern about environmental
contamination and exposure was examined in relation to both perceived
and actual proximity to a toxic waste disposal site (TWDS). It was
hypothesized that perceived residential proximity would better

predict concern levels that would actual residential distance. The data were abstracted from a New York State, excluding New York City, survey using all respondents (N = 317) from one county known to have a large number of TWDs. Using linear regression, the variance explained in concern scores was 22 times higher with perceived distance than for actual distance. Perceived residential distance was a significant predictor of concern scores, while actual distance was not. However, perceived distance explained less than 5% of the variance in concern scores. Author-abstract.

MJ ATTITUDE. HAZARDOUS-WASTE. RESIDENCE-CHARACTERISTICS.

MN ADULT. AGED. COMPARATIVE-STUDY. FEMALE. HUMAN. MALE.

MIDDLE-AGE. NEW-YORK. QUESTIONNAIRES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1988.

IS 0003-9896. 6YO.

CP UNITED-STATES (Z1.107.567.875).

IM 8903.

ND ENTRY DATE: 881230.

20

AN 88314577. 88000.

AU Meieran-H-B.

IN HB Meieran Associates, Pittsburgh, PA 15208.

TI Robotics and teleoperator-controlled devices.

SO Health-Phys. 1988 Aug. 55(2). P 215-22.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This paper presents a rationale for and a summary of tasks and missions to which mobile and stationary robots and other teleoperator-controlled devices could be assigned in response to the accidental release of radioactive and other hazardous/toxic materials to the environment. Many of these vehicles and devices currently support operation and maintenance of nuclear power plants and other nuclear industry facilities. This paper also discusses specific missions for these devices at the *Three* *Mile* *Island* and Chernobyl nuclear power plant sites at the time of the accidents. Also discussed is the status of devices under development for future applications, as well as research on robotics. Author-abstract.

MJ ACCIDENTS. NUCLEAR-REACTORS. ROBOTICS.

MN RESEARCH.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8812.

ND ENTRY DATE: 881007.

21

AN 88145704. 88000.

AU Bonte-F-J.
 IN Nuclear Medicine Center, University of Texas Health Science Center,
 Dallas 75235.
 TI Chernobyl retrospective.
 SO Semin-Nucl-Med. 1988 Jan. 18(1). P 16-24.
 JT SEMINARS IN NUCLEAR MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB On April 28, 1986 heavy radioactive fallout from an unknown source
 was reported from Sweden. Later, it was discovered that two days
 earlier, a nuclear power reactor at Chernobyl, in the Soviet Union,
 had exploded releasing an enormous cloud of effluent containing 40
 million Ci of ¹³¹I, 3 million Ci of ¹³⁷Cs, and 50 million Ci of xenon
 radioisotopes. This far exceeded the 15 Ci of ¹³¹I escape in the
 notorious *Three* *Mile* *Island* accident. Chernobyl reactor IV, of an
 antiquated design, was a graphite-moderated reactor which suffered a
 steam explosion when the operating staff attempted an experiment
 involving preservation of safety functions during a planned shutdown.
 Following the explosion, a fire started in the graphite core which
 required ten days to control. Thirty-one persons died, two in the
 initial explosion and 29 of various combinations of thermal and
 radiation burns, and gamma irradiation. Existing emergency plans
 were invoked involving treatment on the scene and evacuation of
 seriously injured patients to a special hospital in Moscow, as well
 as to nearby Kiev. Later, 135,000 residents of the immediate
 neighborhood were surveyed and evacuated after fallout radiation
 levels began to rise. Fallout patterns around Europe and the
 northern hemisphere were closely tracked. Consequences of the
 accident in human and monetary terms will require years of
 evaluation. Although the United States has no power reactors of the
 Chernobyl type, the country does have a radiation disaster management
 plan, often rehearsed at the state level. As a consequence of
 Chernobyl certain international agreements dealing with radiation
 disaster information and management have been forged.
 Author-abstract. 16 Refs.
 MJ ACCIDENTS. NUCLEAR-REACTORS.
 MN HUMAN. RADIATION-INJURIES: etiology (et), therapy (th).
 RADIOACTIVE-FALLOUT. UKRAINE.
 RN 0 -- Radioactive-Fallout.
 SB Priority Journals (M).
 YR 1988.
 IS 0001-2998. UNY.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8806.
 ND ENTRY DATE: 880401.
 CLASS UPDATE: 91.

AN 87281554. 87000.
 AU Davidson-L-M. Fleming-R. Baum-A.

IN Uniformed Services University of the Health Sciences, F. Edward
 Hebert School of Medicine, Bethesda, Md.

TI Chronic stress, catecholamines, and sleep disturbance at *Three* *Mile*
 Island.

SO J-Human-Stress. 1987 Summer. 13(2). P 75-83.

JT JOURNAL OF HUMAN STRESS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The present study was concerned with the relationship between chronic
 stress and sleep disturbance. Previous research has provided
 evidence of chronic stress responding among people living near the
 Three *Mile* *Island* nuclear generating facility. Compared to control
 subjects, the TMI group has exhibited greater symptom reporting,
 poorer performance on behavioral measures of concentration, and
 elevated levels of urinary norepinephrine and epinephrine. Other
 research has suggested a relationship between arousal and insomnia.
 The extent to which stress and sleep disturbances were experienced by
 residents at TMI was examined and compared to levels of stress and
 sleep disturbance among a group of control subjects. The
 relationship between stress and sleep disturbances was also examined.
 Results indicated that TMI area residents exhibited more stress than
 the controls and reported greater disturbance of sleep. Modest
 relationships among stress and sleep measures suggested that the
 symptoms of stress measured in this study were not primary
 determinants of sleep problems. Author-abstract.

MJ ACCIDENTS. AROUSAL: physiology (ph). EPINEPHRINE: urine (ur).
 INSOMNIA: psychology (px). NOREPINEPHRINE: urine (ur).
 NUCLEAR-REACTORS. STRESS-PSYCHOLOGICAL: complications (co).

MN HUMAN. INSOMNIA: urine (ur). PENNSYLVANIA.
 SUPPORT-U-S-GOVT-NON-P-H-S.

RN 51-41-2 -- Norepinephrine.
 51-43-4 -- Epinephrine.

SB Priority Journals (M).

YR 1987.

IS 0097-840X. IEC.

CP UNITED-STATES (Z1.107.567.875).

IM 8711.

ND ENTRY DATE: 870828.

23

AN 87268191. 87000.

AU Dew-M-A. Bromet-E-J. Schulberg-H-C. Dunn-L-O. Parkinson-D-K.

IN Department of Psychiatry (Western Psychiatric Institute and Clinic),
 University of Pittsburgh, PA 15213.

TI Mental health effects of the *Three* *Mile* *Island* nuclear reactor
 restart.

SO Am-J-Psychiatry. 1987 Aug. 144(8). P 1074-7.

JT AMERICAN JOURNAL OF PSYCHIATRY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Controversy over potential mental health effects of the *Three* *Mile* *Island* Unit-1 restart led the authors to examine prospectively the pattern of psychiatric symptoms in a sample of *Three* *Mile* *Island* area mothers of young children. Symptom levels after restart were elevated over previous levels; a sizable subcohort of the sample reported relatively serious degrees of postrestart distress. History of diagnosable major depression and generalized anxiety following the *Three* *Mile* *Island* accident, plus symptoms and beliefs about personal risk prior to the restart, best predicted postrestart symptoms. Author-abstract.

MJ ACCIDENTS. MENTAL-DISORDERS: diagnosis (di). NUCLEAR-REACTORS.

MN ANXIETY-DISORDERS: diagnosis (di). DEPRESSIVE-DISORDER: diagnosis (di). DISASTERS. FEMALE. HUMAN. PROSPECTIVE-STUDIES. STRESS-PSYCHOLOGICAL: diagnosis (di). SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1987.

IS 0002-953X. 3VG.

CP UNITED-STATES (Z1.107.567.875).

IM 8710.

ND ENTRY DATE: 870826.

NO 278790048. MH35425. MH15169.

24

AN 87267434. 87000.

AU Dew-M-A. Bromet-E-J. Schulberg-H-C.

IN Department of Psychiatry, University of Pittsburgh, Pennsylvania 15213.

TI A comparative analysis of two community stressors' long-term mental health effects.

SO Am-J-Community-Psychol. 1987 Apr. 15(2). P 167-84.

JT AMERICAN JOURNAL OF COMMUNITY PSYCHOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The investigation directly compared the long-term mental health consequences of two community-wide stressors, the *Three* *Mile* *Island* (TMI) nuclear accident and widespread unemployment due to layoff, in demographically comparable samples of women. Results showed a marked degree of similarity in the stressors' effects: Levels of subclinical symptomatology were elevated to similar degrees in each sample during the year following stressor onset, and symptom levels remained elevated in each sample 2 to 3 1/2 years later. Moreover, variables identified as predictors of enduring psychological distress were virtually identical for the two samples. Additional analyses revealed that the mental health status of unemployed husbands mediated the negative psychological effects of layoff on their wives. Implications of these results for understanding the long-term consequences of exposure to community-wide stress are discussed. Author-abstract.

MJ ADJUSTMENT-DISORDERS: psychology (px). SOCIAL-ENVIRONMENT.

STRESS-PSYCHOLOGICAL: complications (co).
MN ACCIDENTS. ADOLESCENCE. ADULT. FEMALE. FOLLOW-UP-STUDIES. HUMAN.
MALE. NUCLEAR-REACTORS. PENNSYLVANIA. RISK.
SUPPORT-U-S-GOVT-P-H-S. UNEMPLOYMENT.
SB Priority Journals (M).
YR 1987.
IS 0091-0562. 3FV.
CP UNITED-STATES (Z1.107.567.875).
IM 8710.
ND ENTRY DATE: 870817.
CLASS UPDATE: 90.
NO 278790048SM. MH35425.

25

AN 87206175. 87000.
AU Ahearne-J-F.
IN Resources for the Future, Washington, DC 20036.
TI Nuclear power after Chernobyl.
SO Science. 1987 May 8. 236(4802). P 673-9.
JT SCIENCE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The causes and progress of the accident at Chernobyl are described,
and a comparison between the Chernobyl accident and the 1979 accident
at the *Three* *Mile* *Island* nuclear power station is made. Significant
similarities between Chernobyl and *Three* *Mile* *Island* include
complacency of operators and industry, deliberate negation of safety
systems, and a lack of understanding of their plant on the part of
the operators, which shows the critical importance of the human
element. The Chernobyl accident has implications for nuclear power
in the United States; it will affect the research program of the
Nuclear Regulatory Commission, regulation of Department of Energy
reactors, new reactor designs, and public attitudes.
Author-abstract.
MJ ACCIDENT-PREVENTION. ACCIDENTS. NUCLEAR-ENERGY.
NUCLEAR-REACTORS.
MN AUSTRIA. COMPARATIVE-STUDY. INTERNATIONAL-AGENCIES. UKRAINE.
UNITED-STATES. USSR.
SB Priority Journals (M). Cancer Journals (X).
YR 1987.
IS 0036-8075. UJ7.
CP UNITED-STATES (Z1.107.567.875).
IM 8708.
ND ENTRY DATE: 870605.
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1

AN 92021748. 92011.
TI *Nuclear* *accident* countermeasures: iodine prophylaxis. Report of the
UK Working Group on Iodine Prophylaxis following *Nuclear* *Accidents.*
SO Rep-Health-Soc-Subj (Lond). 1991. 39. P 1-63.
JT REPORTS ON HEALTH AND SOCIAL SUBJECTS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB 70 Refs.
MJ DISASTERS. IODINE: therapeutic-use (tu). IODINE-RADIOISOTOPES:
adverse-effects *(ae).NUCLEAR-REACTORS.* THYROID-NEOPLASMS:
prevention-and-control (pc).
MN ADOLESCENCE. ADULT. BREAST-FEEDING. CHILD-PRESCHOOL. FEMALE.
GREAT-BRITAIN. HUMAN. INFANT. INFANT-NEWBORN. IODINE:
administration-and-dosage (ad), contraindications (ct). PREGNANCY.
RADIATION-INJURIES: drug-therapy (dt), etiology (et),
prevention-and-control (pc). REFERENCE-STANDARDS.
THYROID-NEOPLASMS: drug-therapy (dt), etiology (et).
WORLD-HEALTH-ORGANIZATION.
RN 7553-56-2 -- Iodine.
SB Priority Journals (M).
YR 1991.
IS 0300-8045. R52.
CP ENGLAND (Z1.542.363.300).
IM 9201.
ND ENTRY DATE: 911105.

2

AN 90158347. 90000.
AU Morrison-L.
TI Government *nuclear* *accident* planning--do doctors have confidence in
it? `editorial:.
SO Med-War. 1989 Oct-Dec. 5(4). P 173-4.
JT MEDICINE AND WAR.
PT EDITORIAL (EDI).
LG English (EN).
MJ *ACCIDENT-PREVENTION.* DISASTER-PLANNING. GOVERNMENT.
NUCLEAR-REACTORS: standards (st).
MN GREAT-BRITAIN. HUMAN. RISK-FACTORS. UKRAINE.
YR 1989.
IS 0748-8009. M6N.
CP ENGLAND (Z1.542.363.300).
IM 9005.
ND ENTRY DATE: 900329.
CLASS UPDATE: 91.

3

AN 89305936. 89000.
 TI *Nuclear* *accidents--harmonization* of the public health response.
 Report on a WHO meeting.
 SO EURO-Rep-Stud. 1989. (110). P 1-111.
 JT EURO REPORTS AND STUDIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *ACCIDENTS.* DISASTER-PLANNING. *NUCLEAR-REACTORS.* PUBLIC-HEALTH.
 RADIOACTIVE-FALLOUT: adverse-effects (ae).
 MN EUROPE. FOOD-CONTAMINATION-RADIOACTIVE. HUMAN. IODINE:
 therapeutic-use (tu). RADIATION-INJURIES: *prevention-and-control*
 (pc). UKRAINE. USSR. WORLD-HEALTH-ORGANIZATION.
 RN 0 -- Radioactive-Fallout.
 7553-56-2 -- Iodine.
 YR 1989.
 IS 0250-8710. EUO.
 CP DENMARK (Z1.542.808.224).
 IM 8910.
 ND ENTRY DATE: 890825.
 CLASS UPDATE: 91.

4

AN 89197646. 89000.
 AU Jones-B-E.
 IN Department of Clinical Chemistry, College of Veterinary Medicine,
 Swedish University of Agricultural Sciences, Uppsala.
 TI Effects of the Chernobyl *accident* on animal husbandry and production,
 from a Swedish perspective.
 SO J-Am-Vet-Med-Assoc. 1989 Apr 1. 194(7). P 900-2.
 JT JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB About 20% of the Swedish land area was considerably contaminated by
 radionuclides released by the *nuclear* *accident* at Chernobyl, Ukraine,
 in April 1986. However, less than 10% of the arable land was
 contaminated. The heavy contamination was closely correlated with
 the amount of rain received during the first days of May 1986.
 Immediate restrictions on grazing limited the early uptake of
 contaminants in animal products. Changes in management of animals,
 especially sheep, goats, and reindeer in the contaminated areas have
 effectively reduced the transfer of radionuclides to human beings.
 One important factor was the possibility of obtaining uncontaminated
 feeds from unaffected parts of the country. The direct costs during
 the first 2 years after the *accident* were approximately +10 million
 for analyses and +90 million for compensation to farmers for
 condemned products (milk, mutton, and reindeer meat) and
 reimbursement for purchase of uncontaminated feeds from other parts
 of the country. Author-abstract.
 MJ *ACCIDENTS.* ANIMAL-HUSBANDRY. FOOD-CONTAMINATION-RADIOACTIVE:
 prevention-and-control (pc). *NUCLEAR-REACTORS.*

MN ANIMAL. ANIMAL-HUSBANDRY: economics (ec). HUMAN. SWEDEN.
UKRAINE.
SB Priority Journals (M).
YR 1989.
IS 0003-1488. HAV.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890516.

5

AN 88316999. 88000.
AU Gale-R-P.
IN Department of Medicine, University of California, Los Angeles School
of Medicine 90024-1678.
TI Medical response to radiation and *nuclear* *accidents:* lessons for the
future.
SO J-Natl-Cancer-Inst. 1988 Sep 7. 80(13). P 995-8.
JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *ACCIDENTS.* *NUCLEAR-REACTORS.* RADIATION-INJURIES: therapy (th).
MN *ACCIDENT-PREVENTION.* BONE-MARROW: transplantation (tr).
BONE-MARROW-TRANSPLANTATION. HUMAN.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0027-8874. J9J.
CP UNITED-STATES (Z1.107.567.875).
IM 8812.
ND ENTRY DATE: 880926.
CLASS UPDATE: 90.

6

AN 87284218. 87000.
AU Gale-R-P.
IN Department of Medicine, UCLA School of Medicine 90024.
TI Immediate medical consequences of *nuclear* *accidents.* Lessons from
Chernobyl.
SO JAMA. 1987 Aug 7. 258(5). P 625-8.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The immediate medical response to the *nuclear* *accident* at the
Chernobyl *nuclear* power station involved containment of the
radioactivity and evacuation of the nearby population. The next step
consisted of assessment of the radiation dose received by
individuals, based on biological dosimetry, and treatment of those
exposed. Medical care involved treatment of skin burns; measures to
support bone marrow failure, gastrointestinal tract injury, and other
organ damage (ie, infection prophylaxis and transfusions) for those
with lower radiation dose exposure; and bone marrow transplantation

for those exposed to a high dose of radiation. At Chernobyl, two victims died immediately and 29 died of radiation or thermal injuries in the next three months. The remaining victims of the *accident* are currently well. A *nuclear* *accident* anywhere is a *nuclear* *accident* everywhere. *Prevention* and cooperation in response to these *accidents* are essential goals. Author-abstract.

MJ *ACCIDENTS.* EMERGENCY-MEDICAL-SERVICES. *NUCLEAR-REACTORS.*
MN BLOOD-TRANSFUSION. BONE-MARROW: transplantation (tr).
BONE-MARROW-TRANSPLANTATION. HUMAN. INFECTION:
prevention-and-control (pc). INFECTION-CONTROL. RADIATION-DOSAGE.
RADIATION-INJURIES: therapy (th). RADIATION-MONITORING.
SUPPORT-U-S-GOVT-P-H-S. UKRAINE.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1987.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 8711.
ND ENTRY DATE: 870922.
CLASS UPDATE: 91.
NO CA23175.

7

AN 87208870. 87000.
AU Hofer-R.
IN Abteilung für Nuklearmedizin, II. Medizinische Universitätsklinik
Wien.
TI `Limit values, the philosophy of establishing limit values:.
TT Grenzwerte, Philosophie der Festsetzung.
SO Acta-Med-Austriaca. 1986. 13(4-5). P 121-3.
JT ACTA MEDICA AUSTRIACA.
PT JOURNAL-ARTICLE (ART).
LG German (GE).
AB Both determination and significance of radiation exposure limits are dependent on the respective situation. The simplest case is the determination of limits for direct effect of a clearly defined radiation dose upon organism, which occurs at doses above a value of about 25 rem. Determination and significance of a limiting value for the maximum permissible dose for radiation workers are also obvious; it indicates the calculated increase of risk and its value (5 rem/a) refers to the "tolerated risk" in other professions. An essentially different situation occurs if the radiation doses in question are far below 5 rem/a, as it is the case in consequence of the Chernobyl *nuclear* *accident.* In this case there is no opportunity of determining a relation between radiation dose and its effect in a scientific and objective way: the relation is postulated by extrapolation of the calculated values. There are two possible solutions: either determination of the limit as a certain fraction of the limiting value for professional exposure (as it has been practiced in France and Switzerland), or consideration of the ICRP

recommendation to keep the limits "as low as reasonably achievable" with regard to social, economical and psychological factors. Austria has chosen this solution. Public information about origin and meaning of these limiting values is a necessary condition to avoid that a value above the limits is considered necessarily harmful.

Author-abstract.

MJ RADIATION-INJURIES: *prevention-and-control* (pc).

MN *ACCIDENTS.* AUSTRIA. ENGLISH-ABSTRACT. HUMAN.

NEOPLASMS-RADIATION-INDUCED: *prevention-and-control* (pc).

NUCLEAR-REACTORS. POWER-PLANTS. RADIATION-DOSAGE. RISK. UKRAINE.

SB Priority Journals (M).

YR 1986.

IS 0303-8173. 0Y2.

CP SWITZERLAND (Z1.542.88).

IM 8708.

ND ENTRY DATE: 870528.

CLASS UPDATE: 90.

8

AN 87208868. 87000.

AU Irlweck-K.

IN Strahlenschutzkontrollabteilung des Osterr. Forschungszentrums
Seibersdorf.

TI `Actual measurements following the Chernobyl reactor *accident:.*

TT Aktuelle Messdaten nach dem Reaktorunfall Tschernobyl.

SO Acta-Med-Austriaca. 1986. 13(4-5). P 107-13.

JT ACTA MEDICA AUSTRIACA.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB The principles of radiation protection for the population in Austria as applied in context with the catastrophic releases of radioactivity from the Chernobyl *nuclear* power reactor are presented. The main results of the first air filter analyses, which allowed an identification of the problem are discussed. The following measurements show, that after radioactive decay of Iodine-131, the main route for intake of Cesium-137 will be ingestion with the foodstuffs over a longer period. Dose estimations give 80 to 100 mrem/year (0.8 to 1.0 mSv/a) effective committed dose equivalent caused by the *nuclear* *accident.* Author-abstract.

MJ *ACCIDENTS.* AIR-POLLUTION-RADIOACTIVE: analysis (an).

NUCLEAR-REACTORS. POWER-PLANTS. RADIATION-INJURIES:

prevention-and-control (pc).

MN AUSTRIA. ENGLISH-ABSTRACT. FOOD-CONTAMINATION-RADIOACTIVE: analysis (an). HUMAN. RADIATION-DOSAGE. RADIOISOTOPES: analysis (an).
UKRAINE.

RN 0 -- Radioisotopes.

SB Priority Journals (M).

YR 1986.

IS 0303-8173. 0Y2.

CP SWITZERLAND (Z1.542.88).

IM 8708.
ND ENTRY DATE: 870528.
CLASS UPDATE: 91.

9

AN 87034038. 87000.
AU Rabin-S-M.
TI Medical intervention in a *nuclear* *accident*.
SO Hosp-Pract (Off Ed). 1986 Nov 15. 21(11). P 137-45, 149-52.
JT HOSPITAL PRACTICE (OFFICE EDITION).
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The medical care given to a victim of a radiation *accident* is one aspect of a larger emergency response that involves the establishment of control of the radiation source, *prevention* of secondary contamination of all persons having contact with the injured, organization of a general evacuation, and panic control. We have discussed the basic knowledge required to render medical care within the first few hours and days following an industrial *nuclear* incident. The fact that we have such knowledge should not be taken as an argument for the survivability of populations whose countries contemplate *nuclear* wars. At Chernobyl, radiation acutely injured about 300 persons and killed at least 31. And yet the enterprise needed to deal with the injured, the dying, and the evacuation of thousands taxed the medical resources of a superpower. Clearly, even the limited medical response available to physicians treating radiation victims rests on an infrastructure of facilities, equipment, drugs, transportation, communication, and organization that would surely be destroyed or severely incapacitated in a *nuclear* exchange. Author-abstract.
MJ DOSE-RESPONSE-RELATIONSHIP-RADIATION. RADIATION-INJURIES: physiopathology (pp).
MN HUMAN. *NUCLEAR-PHYSICS.* *NUCLEAR-REACTORS.* PROGNOSIS. RADIATION-INJURIES: classification (cl), complications (co).
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1986.
IS 8750-2836. HPO.
CP UNITED-STATES (Z1.107.567.875).
IM 8702.
ND ENTRY DATE: 861218.
CLASS UPDATE: 91.
-END OF DISPLAY REQUEST-
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SEARCH 6-->

1

AN 92183264. 92063.
AU Eagle-C-J. Davies-J-M. Reason-J.
IN Department of Anaesthesia, Foothills Hospital, University of Calgary,

Alberta, Canada.

TI Accident analysis of large-scale technological disasters applied to an anaesthetic complication `see comments:.

CM Comment in: Can J Anaesth 1992 Feb;39(2):110-3.

SO Can-J-Anaesth. 1992 Feb. 39(2). P 118-22.

JT CANADIAN JOURNAL OF ANAESTHESIA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The occurrence of serious accidents in complex industrial systems such as at *Three* *Mile* *Island* and Bhopal has prompted development of new models of causation and investigation of disasters. These analytical models have potential relevance in anaesthesia. We therefore applied one of the previously described systems to the investigation of an anaesthetic accident. The model chosen describes two kinds of failures, both of which must be sought. The first group, active failures, consists of mistakes made by practitioners in the provision of care. The second group, latent failures, represents flaws in the administrative and productive system. The model emphasizes the search for latent failures and shows that *prevention* of active failures alone is insufficient to avoid further accidents if latent failures persist unchanged. These key features and the utility of this model are illustrated by application to a case of aspiration of gastric contents. While four active failures were recognized, an equal number of latent failures also became apparent. The identification of both types of failures permitted the formulation of recommendations to avoid further occurrences. Thus this model of accident causation can provide a useful mechanism to investigate and possibly prevent anaesthetic accidents.

Author-abstract.

MJ ACCIDENTS: statistics-and-numerical-data (sn). ANESTHESIA: adverse-effects(ae). MODELS-STATISTICAL. PROCESS-ASSESSMENT-HEALTH-CARE.

MN AGED. ANESTHESIA-GENERAL: adverse-effects (ae). ANESTHESIA-LOCAL. CASE-REPORT. CYSTOSCOPY. DECISION-MAKING. FASTING. HUMAN. MALE. MEDICAL-RECORDS. OPERATING-ROOMS: organization-and-administration (og). PNEUMONIA-ASPIRATION: etiology (et). PREOPERATIVE-CARE. RISK-MANAGEMENT. VOMITING.

SB Priority Journals (M).

YR 1992.

IS 0832-610X. C8L.

CP CANADA (Z1.107.567.176).

IM 9206.

ND ENTRY DATE: 920410.

2

AN 87206175. 87000.

AU Ahearne-J-F.

IN Resources for the Future, Washington, DC 20036.

TI Nuclear power after Chernobyl.

SO Science. 1987 May 8. 236(4802). P 673-9.

JT SCIENCE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The causes and progress of the accident at Chernobyl are described, and a comparison between the Chernobyl accident and the 1979 accident at the *Three* *Mile* *Island* nuclear power station is made. Significant similarities between Chernobyl and *Three* *Mile* *Island* include complacency of operators and industry, deliberate negation of safety systems, and a lack of understanding of their plant on the part of the operators, which shows the critical importance of the human element. The Chernobyl accident has implications for nuclear power in the United States; it will affect the research program of the Nuclear Regulatory Commission, regulation of Department of Energy reactors, new reactor designs, and public attitudes.
Author-abstract.

MJ *ACCIDENT-PREVENTION.* ACCIDENTS. NUCLEAR-ENERGY.
NUCLEAR-REACTORS.

MN AUSTRIA. COMPARATIVE-STUDY. INTERNATIONAL-AGENCIES. UKRAINE.
UNITED-STATES. USSR.

SB Priority Journals (M). Cancer Journals (X).

YR 1987.

IS 0036-8075. UJ7.

CP UNITED-STATES (Z1.107.567.875).

IM 8708.

ND ENTRY DATE: 870605.

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ENTER SEARCH TERMS, COMMAND, OR H FOR HELP

SEARCH 7-->4,7,9,11,12,14,17,18,22,28,31,33,36,37,39,40

4

AN 92294291. 92093.

AU Alexandrowski-J-A. Rumjanzewa-G-M. Jurow-W-W. Martjuschow-A-A.

IN Center of Borderline Psychiatry, Moskva, Russland, GUS.

TI `The dynamics of psychological maladjustment states of chronic stress in inhabitants of areas involved in the Czernobyl nuclear accident:.

TT Dynamik der psychischen Desadaptationszustände unter chronischem Stress bei Bewohnern der Gebiete, die beim GAU im Kernkraftwerk Tschernobyl in Mitleidenschaft gezogen wurden.

SO Psychiatr-Prax. 1992 Mar. 19(2). P 31-4.

JT PSYCHIATRISCHE PRAXIS.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB The authors summarize findings from a 1990 study with 300 inhabitants from areas with various degrees of contamination on psychological, psychiatric, and somatic consequences of the Chernobyl disaster. With critical reference to previous studies and their endogenic interpretation the specific situational and environmental complexity is seen as pathogenetic. The authors discuss the APA DSM-III-R 309-89 posttraumatic syndrome and give specifications of this kind of

over all, and long term stress. Author-abstract.
MJ ACCIDENTS: *psychology* (px). ADAPTATION-PSYCHOLOGICAL.
NUCLEAR-REACTORS. POWER-PLANTS. *RADIATION-INJURIES:* *psychology*
(px). STRESS-DISORDERS-POST-TRAUMATIC: diagnosis (di).
MN ENGLISH-ABSTRACT. HUMAN. NEURASTHENIA: diagnosis (di), *psychology*
(px). PSYCHIATRIC-STATUS-RATING-SCALES.
PSYCHOPHYSIOLOGIC-DISORDERS: diagnosis (di), *psychology* (px).
RADIATION-DOSE. RISK-FACTORS. STRESS-DISORDERS-POST-TRAUMATIC:
psychology (px). UKRAINE.
SB Priority Journals (M).
YR 1992.
IS 0303-4259. QCK.
CP GERMANY (Z1.542.315).
IM 9209.
ND ENTRY DATE: 920714.

7

AN 92155456. 92054.
AU Chinkina-O-V. Torubarov-F-S.
TI `Psychological features of patients after acute *radiation* sickness
caused by the accident at the Chernobyl nuclear power station:.
TT Psikhologicheskie osobennosti bol'nykh, perenecshikh ostruiu
luchevuiu bolezni v svyazi s avariei na Chernobyl'skoi NPS.
SO Fiziol-Cheloveka. 1991 Jul-Aug. 17(4). P 159-66.
JT FIZIOLOGIJA CHELOVEKA.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* *psychology*
(px).
MN ACUTE-DISEASE. ADULT. HUMAN. MALE. MIDDLE-AGE. UKRAINE.
YR 1991.
IS 0131-1646. FAN.
CP USSR (Z1.950).
IM 9205.
ND ENTRY DATE: 920325.

9

AN 92056689. 92021.
AU Revenok-A-A.
TI `The structural-dynamic characteristics of the reactive psychoses in
persons subjected to ionizing *radiation* exposure as a result of the
accident at the Chernobyl Atomic Electric Power Station:.
TT Strukturno-dinamicheskaja kharakteristika reaktivnykh psikhozov u
lits, podvergovshixsia vozdествiiu ioniziruiushchego izlucheniia v
rezul'tate avarii na Chernobyl'skoi AES.
SO Vrach-Delo. 1991 Aug. (8). P 83-6.
JT VRACHEBNOE DELO.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
AB Thirty case histories were examined of patients who participated in

liquidation of sequels of the Chernobyl disaster or inhabiting contaminated territory during the first months after the catastrophe. Of them eleven showed reactive states accompanied by psychopathological disorders. The psychotic disorders in these subjects were simple and concrete by their clinical course, developed mainly during the first 2-4 months after the disaster when the stressogeneity was maximal. This conclusion is confirmed by the fact that of 148 persons subjected to *radiation* effects and treated at a Kiev Mental hospital from 1986 through 1990 reactive psychoses were observed only in 11 cases. Author-abstract.

MJ ACCIDENTS. NUCLEAR-REACTORS. POWER-PLANTS. PSYCHOTIC-DISORDERS: diagnosis (di). *RADIATION-INJURIES:* *psychology* (px).
MN ADJUSTMENT-DISORDERS: diagnosis (di), etiology (et), *psychology* (px). ENGLISH-ABSTRACT. HUMAN. MIDDLE-AGE. PSYCHOTIC-DISORDERS: etiology (et), *psychology* (px). *RADIATION-INJURIES:* complications (co). TIME-FACTORS. UKRAINE.
YR 1991.
IS 0049-6804. XLS.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 9202.
ND ENTRY DATE: 911213.

11

AN 91351037. 91000.
AU Torubarov-F-S. Chinkina-O-V.
TI `The psychic status and work capacity of the victims of the accident at the Chernobyl Nuclear Power Station in the period of recovery from and near-term consequences of acute *radiation* sickness:.
TT Psikhicheskoe sostoianie i trudosposobnost' postradavshikh pri avarii na Chernobyl'skoi AES v period vosstanovleniia i blizhaishikh posledstviu ostroi luchevoi bolezni.
SO Med-Radiol (Mosk). 1991. 36(7). P 10-3.
JT MEDITSINSKAIA RADIOLOGIIA.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
AB Analysis of the results of clinicopsychological investigation of persons developing ARS (I-III degree of severity) as a result of the Chernobyl accident has shown that 4-6 mos. after the exposure the psychic status and mental working ability of the affected persons showed close correlation with a degree of ARS. In 12-18 mos. profession and adequate employment played a decisive role in the formation of unfavorable psychic conditions and limited working ability. Later on in 2.5-3 years after exposure a decrease in psychic working ability, the development of unfavorable psychic conditions was noted more frequently in patients with ARS of more severe types and in examinees of older age. At all stages of rehabilitation personality traits of the affected persons play an important role in the revival of working abilities. Author-abstract.
MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* *psychology* (px).

WORK-CAPACITY-EVALUATION.

MN ADULT. ENGLISH-ABSTRACT. HUMAN. MALE. MIDDLE-AGE.

RADIATION-INJURIES: rehabilitation (rh). UKRAINE.

SB Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0025-8334. MBI.

CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).

IM 9112.

ND ENTRY DATE: 911003.

12

AN 91312471. 91000.

AU Giel-R.

IN Rijksuniversiteit, afd. Sociale Psychiatrie, Groningen.

TI `How bad was Chernobyl? Psychosocial sequelae of the reactor accident:.

TT Hoe erg was Chernobyl? De psychosociale gevolgen van het reactorongeluk.

SO Ned-Tijdschr-Geneskd. 1991 Jun 22. 135(25). P 1137-41.

JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE.

PT JOURNAL-ARTICLE (ART).

LG Dutch (DU).

MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* *psychology* (px).
STRESS-DISORDERS-POST-TRAUMATIC: etiology (et).

MN HUMAN. PUBLIC-OPINION. SICK-ROLE. UKRAINE.

YR 1991.

IS 0028-2162. NUK.

CP NETHERLANDS (Z1.542.651).

IM 9110.

ND ENTRY DATE: 910829.

14

AN 91224070. 91000.

AU Weinstein-N-D. Sandman-P-M. Roberts-N-E.

IN Department of Human Ecology, Cook College, Rutgers University, New Brunswick, NJ 08903.

TI Perceived susceptibility and self-protective behavior: a field experiment to encourage home radon testing.

SO Health-Psychol. 1991. 10(1). P 25-33.

JT HEALTH *PSYCHOLOGY.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Tested in a field experiment (N = 647) the hypothesis that perceptions of personal susceptibility are important in decisions to test one's home for radioactive radon gas. Experimental group subjects received a personal telephone call to tell them they lived in a high-risk area and a personal letter to reinforce the telephone message. After the intervention, experimental subjects were significantly more likely than minimal-treatment subjects to acknowledge the possibility of high radon levels in their homes.

Perceptions of susceptibility and illness severity were significantly correlated with orders of radon test kits and with testing intentions. Nevertheless, there were no differences between groups in test orders or intentions. Results are discussed in terms of the difficulty of getting people to acknowledge susceptibility and the factors other than risk perceptions that influence self-protective behavior. Author-abstract.

MJ AIR-POLLUTANTS-RADIOACTIVE: adverse-effects (ae).
ATTITUDE-TO-HEALTH. HEALTH-BEHAVIOR. *RADIATION-INJURIES:*
prevention-and-control (pc). *RADIATION-MONITORING:* *psychology* (px).
RADON: adverse-effects (ae).
MN DISEASE-SUSCEPTIBILITY: *psychology* (px). ENVIRONMENTAL-EXPOSURE.
HEALTH-EDUCATION. HUMAN. *NEOPLASMS-RADIATION-INDUCED:*
prevention-and-control (pc), *psychology* (px). *RADIATION-INJURIES:*
psychology (px). RISK-FACTORS.
RN 10043-92-2 -- Radon.
SB Priority Journals (M).
YR 1991.
IS 0278-6133. EJL.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910607.

17

AN 90342806. 90000.
AU Murphy-B-C. Ellis-P. Greenberg-S.
IN Department of *Psychology,* Wheaton College, Norton, Mass.
TI Atomic veterans and their families: responses to *radiation* exposure.
SO Am-J-Orthopsychiatry. 1990 Jul. 60(3). P 418-27.
JT AMERICAN JOURNAL OF ORTHOPSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In-depth interviews with seven atomic veterans and their families indicated powerful psychological effects on all family members from exposure to low-level ionizing *radiation.* Four themes emerged: the invalidation of their experiences by government and other authority figures; family concerns about genetic effects on future generations; family members' desire to protect each other from fears of physical consequences; and desire to leave a record of their experiences to help prevent future suffering. Author-abstract.
MJ NUCLEAR-WARFARE. *RADIATION-INJURIES:* *psychology* (px). SURVIVAL: *psychology* (px). VETERANS: *psychology* (px).
MN *ABNORMALITIES-RADIATION-INDUCED:* *psychology* (px).
ADAPTATION-PSYCHOLOGICAL. ADOLESCENCE. ADULT. AGED.
DENIAL-PSYCHOLOGY. FAMILY. FEMALE. HUMAN. MALE. MIDDLE-AGE.
NEOPLASMS-RADIATION-INDUCED: *psychology* (px). SICK-ROLE.
SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1990.
IS 0002-9432. 3R6.

CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900912.

18

AN 90268304. 90000.
AU Ross-W-M.
TI Medicolegal aspects of medical *radiation* exposure.
SO Br-J-Radiol. 1990 Apr. 63(748). P 313-4.
JT BRITISH JOURNAL OF RADIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ JURISPRUDENCE. *RADIATION-INJURIES.*
MN CELL-SURVIVAL: *radiation-effects* (re). GREAT-BRITAIN. HUMAN.
MALPRACTICE. *RADIATION-DOSAGE.* *RADIATION-INJURIES:*
prevention-and-control (pc), *psychology* (px).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1990.
IS 0007-1285. B28.
CP ENGLAND (Z1.542.363.300).
IM 9009.
ND ENTRY DATE: 900706.

22

AN 89389602. 89000.
AU Aleksandrovskii-IuA. Rumiantseva-G-M. Shchukin-B-P. Iurov-V-V.
TI `Mental disadaptation in emergency situations (accident at the
Chernobyl nuclear power station):.
TT Sostoianie psikhicheskoi dezadaptatsii v ekstrema'lnykh usloviakh
(po materialam avarii na Chernoby'lskoi AES).
SO Zh-Nevropatol-Psikhiatr. 1989. 89(5). P 111-7.
JT ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
AB Phenomenology and time course of psychic disorders in persons exposed
to life-threatening emergency situations provoked by the Chernobyl
accident have been analyzed. Three states could be identified
according to differences in their psychogenic impact: acute, delayed
and long-term. Psychic dysadaptation and disorders might be
presented as results of a single process beginning with acute anxiety
responses followed by asthenic disorders which backed the relatively
steady neurotic and psychopathic states. Author-abstract.
MJ ACCIDENTS. ADAPTATION-PSYCHOLOGICAL. ANXIETY-DISORDERS: etiology
(et). NUCLEAR-REACTORS. POWER-PLANTS. *RADIATION-INJURIES:*
psychology (px). STRESS-PSYCHOLOGICAL: etiology (et).
MN EMERGENCIES. ENGLISH-ABSTRACT. HUMAN. *RADIATION-INJURIES:* etiology
(et). UKRAINE.
SB Priority Journals (M).
YR 1989.

IS 0044-4588. Y9Y.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 8912.
ND ENTRY DATE: 891017.

28

AN 89203339. 89000.
AU Goldsteen-R. Schorr-J-K. Goldsteen-K-S.
IN Department of Health & Safety Studies, University of Illinois,
Urbana-Champaign 61820.
TI Longitudinal study of appraisal at Three Mile Island: implications
for life event research.
SO Soc-Sci-Med. 1989. 28(4). P 389-98.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This study tests a path model which indicates the occurrence of
appraisal following the accident at Three Mile Island (TMI). The
model posits a causal relationship between trust in TMI-related
authorities, perceived danger, perceived harm to health, and
psychological distress. The implications of the findings for life
event research are discussed in terms of the etiological significance
of meaning, event consequences, and control. Author-abstract.
MJ ACCIDENTS. LIFE-CHANGE-EVENTS. NUCLEAR-REACTORS. POWER-PLANTS.
MN ADULT. ATTITUDE-TO-HEALTH. FEMALE. HUMAN. LONGITUDINAL-STUDIES.
MALE. MIDDLE-AGE. PENNSYLVANIA. *RADIATION-INJURIES:* *psychology*
(px). RISK-FACTORS.
SB Priority Journals (M).
YR 1989.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 8907.
ND ENTRY DATE: 890515.

31

AN 89072834. 89000.
AU Vyner-H-M.
IN *Radiation* Research Institute, Berkeley, CA 94704.
TI The psychological dimensions of health care for patients exposed to
radiation and the other invisible environmental contaminants.
SO Soc-Sci-Med. 1988. 27(10). P 1097-103.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Invisible environmental contaminants are those contaminants that
possess environmental and/or medical invisibility. Recent studies
indicate: (1) that these contaminants can and do have traumatic
psychological effects on those individuals who have been exposed to
them and (2) that there is a remarkable uniformity to these traumatic
affects as they have been found in the various invisible exposures

that have been studied to date. The common denominators in all of these situations is the invisibility of the involved contaminants. The adverse psychological effects of the invisible contaminants are as follows: (1) experienced uncertainty, (2) adaptational dilemmas, (3) hypervigilance, (4) nonempirical belief systems about the exposure, and (5) traumatic neuroses. This paper will: (1) review the data that documents the occurrence of psychological effects of the invisible environmental contaminants, (2) present an adaptational model that explains the manner in which these psychological trauma develop, and (3) examine the clinical and public policy implications of these findings. Author-abstract. 23 Refs.

MJ ENVIRONMENTAL-POLLUTANTS: poisoning (po). HEALTH-POLICY.

RADIATION-INJURIES: *psychology* (px). SICK-ROLE.

MN HUMAN. HYPOCHONDRIASIS: *psychology* (px). RISK-FACTORS.

STRESS-DISORDERS-POST-TRAUMATIC: *psychology* (px).

SB Priority Journals (M).

YR 1988.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 8903.

ND ENTRY DATE: 890124.

CLASS UPDATE: 90.

33

AN 89017785. 89000.

AU Dubois-A. Fiala-N. Boward-C-A. Bogo-V.

IN Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland.

TI Prevention and treatment of the gastric symptoms of *radiation* sickness.

SO Radiat-Res. 1988 Sep. 115(3). P 595-604.

JT *RADIATION* RESEARCH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Currently available treatments for *radiation-induced* nausea and vomiting either are ineffective or reduce performance. The new antiemetic and gastrokinetic agent zacopride was tested in rhesus monkeys to assess its behavioral toxicity and its ability to inhibit *radiation-induced* emesis. Zacopride (intragastric, 0.3 mg/kg) or a placebo was given blindly and randomly in the basal state and 15 min before a whole-body 800 cGy 60Co *gamma-radiation* dose (except for the legs which were partially protected to permit survival of some bone marrow). We determined (1) gastric emptying rates; (2) the presence and frequency of retching and vomiting; and (3) the effect of zacopride on the performance of a visual discrimination task in nonirradiated subjects. No vomiting, retching, or decreased performance was observed after either placebo or zacopride in the control state. Following irradiation plus placebo, 70 emeses were observed in 5 of 6 monkeys, and 353 retches were observed in all 6 monkeys. In contrast, only 1 emesis was observed in 1 of 6 monkeys.

and 173 retches were seen in 4 of 6 monkeys after irradiation plus zacopride (P less than 0.01). Zacopride also significantly inhibited *radiation-induced* suppression of gastric emptying. When given after the first vomiting episode in a separate group of irradiated monkeys, zacopride completely prevented any subsequent vomiting. The present results demonstrate that intragastric administration of zacopride significantly inhibited *radiation-induced* retching, vomiting, and suppression of gastric emptying in rhesus monkeys and did not cause detectable behavioral side effects when given to nonradiated monkeys. This observation has important implications in the treatment of *radiation* sickness. Author-abstract.

MJ BENZAMIDES: therapeutic-use (tu). BICYCLO-COMPOUNDS: therapeutic-use (tu). BRIDGED-COMPOUNDS: therapeutic-use (tu). GASTROINTESTINAL-DISEASES: etiology (et). *RADIATION-INJURIES-EXPERIMENTAL:* complications (co).
MN ANIMAL. BEHAVIOR-ANIMAL: drug-effects (de). BENZAMIDES: pharmacology (pd), toxicity(to). BICYCLO-COMPOUNDS: pharmacology (pd), toxicity (to). *DISCRIMINATION-PSYCHOLOGY:* drug-effects (de). GASTROINTESTINAL-DISEASES: drug-therapy (dt), prevention-and-control (pc). MACACA-MULATTA. MALE. SUPPORT-U-S-GOVT-NON-P-H-S.
RN 0 -- Bridged-Compounds.
90182-92-6 -- zacopride.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0033-7587. QMP.
CP UNITED-STATES (Z1.107.567.875).
IM 8901.
ND ENTRY DATE: 881108.
CLASS UPDATE: 91.

36

AN 88130102. 88000.
AU Roscoe-B. Goodwin-M-P.
IN Individual and Family Studies, Central Michigan University, Mount Pleasant 48859.
TI Adolescents' knowledge of nuclear issues and the effects of nuclear war.
SO Adolescence. 1987 Winter. 22(88). P 803-12.
JT ADOLESCENCE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Three hundred fifty-seven college students were surveyed to assess later adolescents' awareness of the status of nuclear arms development and possible effects of a nuclear war on people and the environment. Chi-square analyses were performed to determine whether the frequency of correct responses differed with regard to participants' sex, political orientation, and position toward the United States' possession of nuclear weapons. Results suggest that later adolescents are extremely uninformed regarding the current status of nuclear issues and the consequences of a nuclear war.

These data, coupled with findings from previous studies reporting children's and adolescents' concerns and fears about nuclear war, indicate that there is a strong need to educate young people concerning nuclear issues. Author-abstract.

MJ ATTITUDE. AWARENESS. COGNITION. NUCLEAR-WARFARE.
PERSONALITY-DEVELOPMENT.
MN ADOLESCENCE. HUMAN. POLITICS. *RADIATION-INJURIES:* *psychology*
(px).
SB Priority Journals (M).
YR 1987.
IS 0001-8449. 2H8.
CP UNITED-STATES (Z1.107.567.875).
IM 8805.
ND ENTRY DATE: 880318.
CLASS UPDATE: 90.

37

AN 88067536. 88000.
AU Mardberg-B. Carlstedt-L. Stalberg-Carlstedt-B. Shalit-B.
IN National Defense Research Institute, Stockholm, Sweden.
TI Sex differences in perception of threat from the Chernobyl accident.
SO Percept-Mot-Skills. 1987 Aug. 65(1). P 228.
JT PERCEPTUAL AND MOTOR SKILLS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ACCIDENTS. ATTITUDE. NUCLEAR-REACTORS. POWER-PLANTS.
RADIATION-INJURIES: *psychology* (px).
MN FEMALE. HUMAN. MALE. RISK-FACTORS. UKRAINE.
SB Priority Journals (M).
YR 1987.
IS 0031-5125. OZB.
CP UNITED-STATES (Z1.107.567.875).
IM 8803.
ND ENTRY DATE: 871224.

39

AN 88000471. 88000.
AU Gestal-J-J.
IN Department of Preventive and Social Medicine, Faculty of Medicine,
University of Santiago, Spain.
TI Occupational hazards in hospitals: accidents, *radiation,* exposure to
noxious chemicals, drug addiction and psychic problems, and assault.
SO Br-J-Ind-Med. 1987 Aug. 44(8). P 510-20.
JT BRITISH JOURNAL OF INDUSTRIAL MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Except for infectious diseases all the main occupational hazards
affecting health workers are reviewed: accidents (explosions, fires,
electrical accidents, and other sources of *injury*); *radiation*
(stochastic and non-stochastic effects, protective measures, and

personnel most at risk); exposure to noxious chemicals, whose effects may be either local (allergic eczema) or generalised (cancer, mutations), particular attention being paid to the hazards presented by formal, ethylene oxide, cytostatics, and anaesthetic gases; drug addiction (which is more common among health workers than the general population) and psychic problems associated with promotion, shift work, and emotional stress; and assault (various types of assault suffered by health workers, its causes, and the characterisation of the most aggressive patients). Author-abstract. 358 Refs.

MJ ACCIDENTS-OCCUPATIONAL. OCCUPATIONAL-DISEASES: etiology (et).
PERSONNEL-HOSPITAL. *RADIATION-INJURIES:* etiology (et).
MN ACCIDENTS-OCCUPATIONAL: prevention-and-control (pc). HOSPITALS.
HUMAN. OCCUPATIONAL-DISEASES: chemically-induced (ci), *psychology*
(px). STRESS-PSYCHOLOGICAL: etiology (et). SUBSTANCE-DEPENDENCE:
etiology (et). VIOLENCE.
SB Priority Journals (M).
YR 1987.
IS 0007-1072. AXS.
CP ENGLAND (Z1.542.363.300).
IM 8801.
ND ENTRY DATE: 871105.
CLASS UPDATE: 90.

40

AN 87163157. 87000.
AU Velasco-Suarez-M. Lown-B. Evans-J-P. Ondarza-R-N. Castellanos-G.
TI `The physician confronting the risks of nuclear war:.
TT El medico frente a los riesgos de la guerra nuclear.
SO Gac-Med-Mex. 1986 May-Jun. 122(5-6). P 135-47.
JT GACETA MEDICA DE MEXICO.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
MJ NUCLEAR-WARFARE. PHYSICIANS-ROLE. ROLE.
MN DISASTER-PLANNING. ECOLOGY. HUMAN. PHYSICIANS: *psychology* (px).
RADIATION-INJURIES.
YR 1986.
IS 0016-3813. FFF.
CP MEXICO (Z1.107.567.589).
IM 8707.
ND ENTRY DATE: 870520.
CLASS UPDATE: 90.
-END OF DISPLAY REQUEST-
RETURNING TO SEARCH

ENTER SEARCH TERMS, COMMAND, OR H FOR HELP

SEARCH 10-->r^

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MESH

SCREEN

1 OF

2*

MESH 1987 THRU CURRENT YEAR

1 THREE MILE ISLAND

RESULT	25
2 HANOVER	
RESULT	1378
3 NUCLEAR ACCIDENT	
RESULT	90
4 3 AND PUBLIC EDUCATION	
RESULT	0
5 3 AND PREVENTION	
RESULT	9
6 1 AND PREVENTION	
RESULT	2
7 3 AND PROFESSIONAL EDUCATION	
RESULT	0
8 RADIATION INJURIES	
RESULT	3838

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SCREEN 2 OF 2*

MESH

9 8 AND PSYCHOLOGY	
RESULT	43
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PRESS ENTER TO CONTINUE OR ENTER COMMAND-->

42

AN 87032896. 87000.

AU Klener-V. Tuscany-R. Vejlupekova-J. Dvorak-J. Vlkovic-P.

TI Long-term follow-up after accidental gamma irradiation from a 60Co source.

SO Health-Phys. 1986 Nov. 51(5). P 601-7.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB In December 1973 a technician was accidentally irradiated when attempting to bring under control a sealed 60Co source (110 TBq) which had been lodged in the head of a medical irradiation unit during a replacement operation. In the early period after the accident, severe skin changes on the left hand, epilation in a small area of the left temporal region and minor deviations in peripheral blood developed. In the following years, repeated surgery due to secondary skin defects of the left hand resulted in the loss of the fingers 2-5. Since 1975, changes in the lens of the left eye began to appear leading gradually to the deterioration of visual acuity. Later, opacities of the lens of the right eye were found. The patient's psychological and emotional attitude about the accident changed in the course of time. The factors influencing the psychic

state of the patient are identified. Author-abstract.

MJ ACCIDENTS-OCCUPATIONAL. *RADIATION-INJURIES:* etiology (et).

MN ADULT. CASE-REPORT. CATARACT: etiology (et). COBALT-RADIOISOTOPES. CZECHOSLOVAKIA. EYE: pathology (pa), *radiation-effects* (re). FOLLOW-UP-STUDIES. GAMMA-RAYS. *HAND-INJURIES:* etiology (et), pathology (pa). HUMAN. MALE. *RADIATION-INJURIES:* pathology (pa), *psychology* (px). TECHNOLOGY-RADIOLOGIC.

SB Priority Journals (M). Cancer Journals (X).

YR 1986.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8702.

ND ENTRY DATE: 861211.

CLASS UPDATE: 90.

-END OF DISPLAY REQUEST-

-END OF DISPLAY REQUEST-

RETURNING TO SEARCH

ENTER SEARCH TERMS, COMMAND, OR H FOR HELP

SEARCH 13-->pc

ENTER ANSWER NUMBER-->12

ENTER TI (TITLE ONLY), S (SHORT FORMAT), M (MEDIUM FORMAT), L (LONG FORMAT)

TD (TAILORED DISPLAY)--> 1

ENTER DOCUMENT NUMBERS--> 1,3,4,8,11-14,16-18

1

AN 92279753. 92091.

AU Christensen-T. Fuglestad-J. Benestad-C. Ehdwall-H. Hansen-H. Mustonen-R. Stranden-E.

IN National Institute of Radiation Hygiene, Osteros, Norway.

TI Chemical and radiological risk factors associated with *waste* from energy production.

SO Sci-Total-Environ. 1992 Apr. 114. P 87-97.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We have tried to estimate the toxic potential of *waste* from *nuclear* power plants and from power plants burning fossil fuels. The potential risks have been expressed as 'risk potentials' or 'person equivalents.' These are purely theoretical units and represent only an attempt to quantify the potential impact of different sources and substances on human health. Existing concentration limits for effects on human health are used. The philosophy behind establishing limits for several carcinogenic chemicals is based on a linear dose-effect curve. That is, no lower concentration of no effect exists and one has to accept a certain small risk by accepting the concentration limit. This is in line with the establishment of limits for radiation. *Waste* products from coal combustion have the highest potential risk among the fossil fuel alternatives. The highest risk is caused by metals, and the fly ash represents the effluent stream giving the largest contribution to the potential

risk. The *waste* from *nuclear* power production has a lower potential risk than coal if today's limit values re used. If one adjusts the limits for radiation dose and the concentration limit values so that a similar risk is accepted by the limits, *nuclear* *waste* seems to have a much higher potential risk than *waste* from fossil fuel. The possibility that such risk estimates may be used as arguments for safe storage of the different types of *waste* is discussed. In order to obtain the actual risk from the potential risk, the dispersion of the *waste* in the environment and its uptake and effects in man have to be taken into account. Author-abstract.

MJ ENVIRONMENTAL-POLLUTION. FOSSIL-FUELS. *INDUSTRIAL-WASTE.*
NUCLEAR-REACTORS. POWER-PLANTS. *RADIOACTIVE-WASTE.*
MN HUMAN. INFANT-NEWBORN. RISK-FACTORS.
SB Priority Journals (M).
YR 1992.
IS 0048-9697. UJ0.
CP NETHERLANDS (Z1.542.651).
IM 9209.
ND ENTRY DATE: 920630.

3

AN 92141508. 92052.
AU Bassett-G-W Jr. Hemphill-R-C.
IN Department of Economics (m/c 144), University of Illinois, Chicago
60680-2451.
TI Comments on "perceived risk, stigma, and potential economic impacts
of a high-level *nuclear* *waste* repository in Nevada".
SO Risk-Anal. 1991 Dec. 11(4). P 697-700; discussion 701-2.
JT RISK ANALYSIS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *RADIOACTIVE-WASTE:* adverse-effects (ae).
MN HUMAN. NEVADA. *RADIOACTIVE-WASTE:* economics (ec). RISK-FACTORS.
SB Priority Journals (M).
YR 1991.
IS 0272-4332. RIA.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920309.

4

AN 92141507. 92052.
AU Slovic-P. Layman-M. Kraus-N. Flynn-J. Chalmers-J. Gesell-G.
IN Decision Research, Eugene, Oregon 97401.
TI Perceived risk, stigma, and potential economic impacts of a
high-level *nuclear* *waste* repository in Nevada.
SO Risk-Anal. 1991 Dec. 11(4). P 683-96.
JT RISK ANALYSIS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB This study investigates the potential impacts of the proposed *nuclear*
waste repository at Yucca Mountain, Nevada, upon tourism, retirement
and job-related migration, and business development in Las Vegas and
the state. Adverse impacts may be expected to result from
perceptions of risk, stigmatization, and socially amplified reactions
to "unfortunate events" associated with the repository (major and
minor accidents, discoveries of radiation releases, evidence of
mismanagement, attempts to sabotage or disrupt the facility, etc.).
The conceptual underpinnings of risk perception, stigmatization, and
social amplification are discussed and empirical data are presented
to demonstrate how *nuclear* images associated with Las Vegas and the
State of Nevada might trigger adverse economic effects. The
possibility that intense negative imagery associated with the
repository may cause significant harm to Nevada's economy can no
longer be ignored by serious attempts to assess the risks and impacts
of this unique facility. The behavioral processes described here
appear relevant as well to the social impact assessment of any
proposed facility that produces, uses, transports, or disposes of
hazardous materials. Author-abstract.

MJ *RADIOACTIVE-WASTE:* adverse-effects (ae).
MN HUMAN. NEVADA. PERCEPTION. *RADIOACTIVE-WASTE:* economics (ec).
RISK-FACTORS. SOCIAL-ENVIRONMENT. SUPPORT-U-S-GOVT-NON-P-H-S.
SB Priority Journals (M).
YR 1991.
IS 0272-4332. RIA.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920309.

8

AN 91008310. 91000.
AU Cohen-B-L.
IN University of Pittsburgh, PA 15260.
TI Society's valuation of life saving in radiation protection and other
contexts.
SO Health-Phys. 1980 Jan. 38(1). P 33-51.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Various situations are described in which societal action may be
interpreted as a dollar value placed on averting a human fatality,
and numerical values are derived in each case. Situations included
are a variety of medical screening and medical care programs and of
automobile and highway safety measures, food for overseas relief, air
pollution control, fire prevention, industrial safety, and several
radiation-related activities including standards for radium in
drinking water, radwaste systems in *nuclear* plants, and defense and
civilian high-level *waste* management. Values varying from a few
thousand dollars to hundreds of millions of dollars per fatality
averted are obtained. An attempt to derive data of this type from

polling is described. The problem of discounting when money is spent now to save lives far in the future (as with *nuclear* *waste*) is discussed. It is concluded that nearly all of the vast variation in the results is unjustified and represents a need for educating the public, especially in the area of radiation protection.

Author-abstract.

MJ PUBLIC-OPINION. RADIATION-PROTECTION: economics (ec). SAFETY.

MN ACCIDENTS-TRAFFIC: economics (ec), prevention-and-control (pc).

COST-BENEFIT-ANALYSIS. HUMAN. MASS-SCREENING: economics (ec).

UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).

YR 1980.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 9101.

ND ENTRY DATE: 901116.

CLASS UPDATE: 91.

11

AN 90212919. 90000.

AU Viel-J-F. Richardson-S-T.

IN Public Health Department, Regional Hospital of Metz, France.

TI Childhood leukaemia around the La Hague *nuclear* *waste* reprocessing plant.

SO BMJ. 1990 Mar 3. 300(6724). P 580-1.

JT BMJ.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ LEUKEMIA: mortality (mo). *NUCLEAR-REACTORS.* *RADIOACTIVE-WASTE.*

MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. FRANCE: epidemiology

(ep). HUMAN. INFANT. INFANT-NEWBORN. LEUKEMIA-RADIATION-INDUCED:

etiology (et). RADIOACTIVE-POLLUTANTS: adverse-effects (ae).

RISK-FACTORS.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0959-8138. BMJ.

CP ENGLAND (Z1.542.363.300).

IM 9007.

ND ENTRY DATE: 900514.

CLASS UPDATE: 91.

12

AN 90186227. 90000.

AU Persson-L.

IN Swedish Consultative Committee for *Nuclear* *Waste* Management, Stockholm, Sweden.

TI Ethical aspects of *nuclear* *waste*.

SO Health-Phys. 1990 Mar. 58(3). P 351-3.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ETHICS. *RADIOACTIVE-WASTE.* REFUSE-DISPOSAL.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 9006.
ND ENTRY DATE: 900419.

13

AN 89330570. 89000.
AU Shulman-S.
TI *Nuclear* *waste:* billion dollar clean-up plan announced `news:.
SO Nature. 1989 Aug 10. 340(6233). P 416.
JT NATURE.
PT NEWS (NEW).
LG English (EN).
MJ *HAZARDOUS-WASTE.*
MN COSTS-AND-COST-ANALYSIS. GOVERNMENT-AGENCIES. *HAZARDOUS-WASTE:.*
economics (ec). UNITED-STATES.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0028-0836. NSC.
CP ENGLAND (Z1.542.363.300).
IM 8911.
ND ENTRY DATE: 890907.
CLASS UPDATE: 91.

14

AN 88275088. 88000.
AU Merz-B.
TI The *nuclear* *waste* problem: how to dispose of the undisposible?
`news:.
SO JAMA. 1988 Aug 5. 260(5). P 601-2.
JT JAMA.
PT NEWS (NEW).
LG English (EN).
MJ *HAZARDOUS-WASTE.* *RADIOACTIVE-WASTE.* REFUSE-DISPOSAL: methods
(mt).
MN NEVADA.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1988.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 8810.
ND ENTRY DATE: 880825.
CLASS UPDATE: 91.

16

AN 88145705. 88000.
AU Connolly-T-J.
IN Department of Mechanical Engineering, Stanford University, CA 94305.
TI The *nuclear* power industry in the United States: status and projections.
SO Semin-Nucl-Med. 1988 Jan. 18(1). P 25-35.
JT SEMINARS IN *NUCLEAR* MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB One sixth of the electricity in the United States is now being generated in *nuclear* power plants, a remarkable achievement for a technology whose basic *nuclear* reaction was not even known 50 years ago. On the other hand, many of the nation's electric utilities are experiencing great difficulties completing the construction of their *nuclear* plants; 41 partially constructed plants have been abandoned. Those abandoned plants plus about 110 in operation and 15 still to be completed comprise the first generation of *nuclear* power plants in the United States. When, and even if, there will be a second generation is much in doubt. Data are presented to show that the absence of a second generation of *nuclear* plants will place large demands on the fossil fuels, with attendant high energy prices and high environmental costs the expected outcome. It appears that the future will bring large economic forces to start new orders for *nuclear* plants. On the other hand, the opposing institutional forces appear equally strong. Among the problems creating these institutional forces are the difficulty the United States is having in finding a politically acceptable approach to *nuclear* *waste* disposal and the vulnerability of power plant builders and operators to litigation and high financial risk. At present, the issue of a second generation of *nuclear* plants is stalemated. Author-abstract. 17 Refs.
MJ *NUCLEAR-ENERGY.* POWER-PLANTS: supply-and-distribution (sd).
MN *HAZARDOUS-WASTE.* POWER-PLANTS: economics (ec). UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0001-2998. UNY.
CP UNITED-STATES (Z1.107.567.875).
IM 8806.
ND ENTRY DATE: 880401.
CLASS UPDATE: 90.

17

AN 87290883. 87000.
AU Gregory-R. Lichtenstein-S.
IN ECO Northwest and Decision Research, Eugene, Oregon 97401.
TI A review of the high-level *nuclear* *waste* repository siting analysis.
SO Risk-Anal. 1987 Jun. 7(2). P 219-23.
JT RISK ANALYSIS.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We critique two 1986 Department of Energy reports concerning the selection of sites for characterization as the nation's first high-level *nuclear* *waste* repository. We find that the multiattribute utility analysis of the five nominated sites was well done, although we express concern about the assessed probabilities, question the construction of two important attribute scales, and disagree with some of the value tradeoffs that were used. In contrast, we find the logic of the recommendations report to be weak and unconvincing.
Author-abstract.

MJ *RADIOACTIVE-WASTE.*

MN REFUSE-DISPOSAL. RISK. SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1987.

IS 0272-4332. RIA.

CP UNITED-STATES (Z1.107.567.875).

IM 8711.

ND ENTRY DATE: 870918.

CLASS UPDATE: 90.

18

AN 87290882. 87000.

AU Keeney-R-L.

IN Systems Science Department, University of Southern California, Los Angeles 90089-0021.

TI An analysis of the portfolio of sites to characterize for selecting a *nuclear* repository.

SO Risk-Anal. 1987 Jun. 7(2). P 195-218.

JT RISK ANALYSIS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The U.S. Department of Energy has selected three sites, from five nominated, to characterize for a *nuclear* repository to permanently dispose of *nuclear* *waste.* This decision was made without the benefit of an analysis of this "portfolio" problem. This paper analyzes different portfolios of three sites for simultaneous characterization and strategies for sequential characterization. Characterization of each site, which involves significant subsurface excavation, is now estimated to cost \$1 billion. Mainly because of the high characterization costs, sequential characterization strategies are identified which are the equivalent of \$1.7-2.0 billion less expensive than the selected DOE simultaneous characterization of the three sites. If three sites are simultaneously characterized, one portfolio is estimated to be the equivalent of \$100-400 million better than the selected DOE portfolio. Because of these potential savings and several other complicating factors that may influence the relative desirability of characterization strategies, a thorough analysis of characterization strategies that addresses the likelihood of finding disqualifying conditions during site characterization, uncertainties, and dependencies in forecast site repository costs,

preclosure and postclosure health and safety impacts, potential delays of both sequential and simultaneous characterization strategies, and the environmental, socioeconomic, and health and safety impacts of characterization activities is recommended.

Author-abstract.

MJ *RADIOACTIVE-WASTE.*

MN *RADIOACTIVE-WASTE:* economics (ec). REFUSE-DISPOSAL.
SUPPORT-U-S-GOVT-NON-P-H-S. UNITED-STATES.

SB Priority Journals (M).

YR 1987.

IS 0272-4332. RIA.

CP UNITED-STATES (Z1.107.567.875).

IM 8711.

ND ENTRY DATE: 870918.

-END OF DISPLAY REQUEST-

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SEARCH 13-->

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TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1

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1

AN 93196578. 93063.

AU Freed-G-L. Bordley-W-C. DeFries-G-H.

IN Cecil G. Sheps Center for Health Services Research, University of
North Carolina, Chapel Hill 27599-7490.

TI Childhood immunization programs: an analysis of policy issues.

SO Milbank-Q. 1993. 71(1). P 65-96.

JT MILBANK QUARTERLY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Immunizations have been among the most successful of preventive
interventions. However, concern exists in the United States that
recent epidemics of vaccine-preventable diseases and low rates of
childhood immunizations may signal the existence of major underlying
problems in immunization policy. Additionally, the effectiveness of
national, state, and local public health programs in administering
these and other preventive services to children has been called into
question. This article examines the current state of childhood
immunizations in this country and offers a broad range of suggestions
for policy modification. Author-abstract.

MJ CHILD-HEALTH-SERVICES. HEALTH-POLICY. IMMUNIZATION: standards
(st).

MN APPOINTMENTS-AND-SCHEDULES. CHILD-PRESCHOOL. HEALTH-RESOURCES:
standards (st). HEALTH-SERVICES-ACCESSIBILITY: economics (ec),
standards (st). HUMAN. INSURANCE-HEALTH: standards (st).
KNOWLEDGE-ATTITUDES-PRACTICE. MEDICAID: economics (ec), standards
(st). *MEDICALLY-UNDERSERVED-AREA.* PARENTS: education (ed),
psychology (px). PATIENT-ACCEPTANCE-OF-HEALTH-CARE.
PATIENT-COMPLIANCE. PRIMARY-HEALTH-CARE: economics (ec), standards
(st). PUBLIC-HEALTH-ADMINISTRATION: standards (st).
SUPPORT-NON-U-S-GOVT. UNITED-STATES. VACCINES:
supply-and-distribution (sd), standards (st).

RN 0 -- Vaccines.

SB Priority Journals (M).

YR 1993.

IS 0887-378X. M9Q.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930415.

2

AN 93193041. 93063.

AU Abbey-S-E. Hood-E. Young-L-T. Malcolmson-S-A.

IN Toronto Hospital, Ontario.

TI Psychiatric consultation in the eastern Canadian Arctic: III. Mental

health issues in Inuit women in the eastern Arctic.

SO Can-J-Psychiatry. 1993 Feb. 38(1). P 32-5.

JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This report describes mental health issues affecting Inuit women as seen in psychiatric consultation. Recent public and governmental attention has focused on the emotional and behavioural sequelae of rapid cultural change, spousal assault and sexual violence. The process of psychiatric consultant with the Inuit woman patient will be described. The need for innovative, community-based treatment strategies in this population will be emphasized. Author-abstract.

MJ ESKIMOS: statistics-and-numerical-data (sn).

MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: epidemiology (ep). PATIENT-CARE-TEAM. PSYCHIATRY. RURAL-HEALTH.

MN ADULT. ARCTIC-REGIONS: epidemiology (ep).

COMBINED-MODALITY-THERAPY. CROSS-SECTIONAL-STUDIES.

DEPRESSIVE-DISORDER: diagnosis (di), epidemiology (ep), therapy (th).

ESKIMOS: psychology (px). FEMALE. FOLLOW-UP-STUDIES.

GENDER-IDENTITY. HOSPITALIZATION. HUMAN. INCIDENCE.

MENTAL-DISORDERS: diagnosis (di), therapy (th). PSYCHOTHERAPY.

PSYCHOTROPIC-DRUGS: therapeutic-use (tu). SUPPORT-NON-U-S-GOVT.

RN 0 -- Psychotropic-Drugs.

SB Priority Journals (M).

YR 1993.

IS 0706-7437. CLR.

CP CANADA (Z1.107.567.176).

IM 9306.

ND ENTRY DATE: 930415.

3

AN 93193040. 93063.

AU Young-L-T. Hood-E. Abbey-S-E. Malcolmson-S-A.

IN Clarke Institute of Psychiatry, Toronto, Ontario.

TI Psychiatric consultation in the eastern Canadian Arctic: II.
Referral patterns, diagnoses and treatment.

SO Can-J-Psychiatry. 1993 Feb. 38(1). P 28-31.

JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The clinical activities of the Baffin Consultation Service of the Clarke Institute of Psychiatry were examined. Demographic and clinical data are described based on clinical interviews and questionnaire items from 581 initial psychiatric referrals. More women than men were referred to the service; the mean age of the patients seen was 27.3 +/- 13.4 years. The majority of referred patients were single and unemployed. The most common reasons for referral were depression, suicidal ideation, suicide attempts and family problems. The major diagnoses made were adjustment reactions and depressive disorders. Treatment was largely carried out in an

outpatient setting through local health care professionals. The implications of these findings for this population and the development of community-based intervention programs are discussed. Author-abstract.

MJ ESKIMOS: psychology (px). *MEDICALLY-UNDERSERVED-AREA.*
MENTAL-DISORDERS: therapy (th). PATIENT-CARE-TEAM: trends (td).
PSYCHIATRY: trends (td). REFERRAL-AND-CONSULTATION: trends (td).
RURAL-HEALTH: trends (td).
MN ADOLESCENCE. ADULT. AGED. ARCTIC-REGIONS: epidemiology (ep).
CHILD. CHILD-PRESCHOOL. COMBINED-MODALITY-THERAPY.
COMMUNITY-MENTAL-HEALTH-CENTERS. FEMALE. HOSPITALIZATION: trends
(td). HUMAN. INFANT. MALE. MENTAL-DISORDERS: diagnosis (di),
epidemiology (ep). MIDDLE-AGE. PSYCHOTHERAPY: trends (td).
PSYCHOTROPIC-DRUGS: therapeutic-use (tu).
RN 0 -- Psychotropic-Drugs.
SB Priority Journals (M).
YR 1993.
IS 0706-7437. CLR.
CP CANADA (Z1.107.567.176).
IM 9306.
ND ENTRY DATE: 930415.

4

AN 93193039. 93063.
AU Hood-E. Malcolmson-S-A. Young-L-T. Abbey-S-E.
IN Clarke Institute of Psychiatry, Toronto, Ontario.
TI Psychiatric consultation in the eastern Canadian Arctic: I.
Development and evolution of the Baffin Psychiatric Consultation
Service.
SO Can-J-Psychiatry. 1993 Feb. 38(1). P 23-7.
JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The Baffin Consultation Service of the Clarke Institute of Psychiatry
has been providing psychiatric consultation services to the Baffin
Island region of the Eastern Canadian Arctic since 1971. This report
describes the background history, development and evolution of the
service. Attention is focused on aspects of the consultation visits,
educational activities of the project and the development of a mental
health network. It is suggested that this is a useful model for the
provision of psychiatric services to remote areas with limited
resources. Author-abstract.
MJ ESKIMOS: psychology (px). *MEDICALLY-UNDERSERVED-AREA.*
MENTAL-DISORDERS: therapy (th). PATIENT-CARE-TEAM: trends (td).
PSYCHIATRY: trends (td). RURAL-HEALTH: trends (td).
MN ARCTIC-REGIONS. COMMUNITY-MENTAL-HEALTH-CENTERS: trends (td).
HUMAN. INTERPROFESSIONAL-RELATIONS. MENTAL-DISORDERS: psychology
(px). SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1993.

IS 0706-7437. CLR.
CP CANADA (Z1.107.567.176).
IM 9306.
ND ENTRY DATE: 930415.

5

AN 93182432. 93061.
AU Harned-M-A.
TI The saga of rural health care.
SO W-V-Med-J. 1993 Feb. 89(2). P 54-5.
JT WEST VIRGINIA MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. *MEDICALLY-UNDERSERVED-AREA.*
PRIMARY-HEALTH-CARE: trends (td). RURAL-HEALTH: trends (td).
MN COST-CONTROL: trends (td). HUMAN. PRIMARY-HEALTH-CARE: economics
(ec). WEST-VIRGINIA.
YR 1993.
IS 0043-3284. XMR.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930330.

6

AN 93177608. 93061.
AU Arnold-I-M.
TI Medical care in remote areas `letter:.
SO Can-Med-Assoc-J. 1993 Feb 1. 148(3). P 363.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ HEALTH-SERVICES: supply-and-distribution (sd).
MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH.
MN HUMAN. NEWFOUNDLAND.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 9306.
ND ENTRY DATE: 930401.

7

AN 93164983. 93053.
AU Verby-J-E Jr.
TI Working together to improve rural EMS `letter:.
SO Minn-Med. 1993 Feb. 76(2). P 8.
JT MINNESOTA MEDICINE.
PT LETTER (LET).
LG English (EN).

MJ CLINICAL-CLERKSHIP. EMERGENCY-MEDICAL-SERVICES: trends (td).
MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH: trends (td).
MN HUMAN. MINNESOTA.
YR 1993.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930317.

8

AN 93164538. 93053.
AU Hubble-J-P.
IN Dept. of Neurology, KUMC-KC 66160-7314.
TI Interactive video conferencing and Parkinson's disease.
SO Kans-Med. 1992 Dec. 93(12). P 351-2.
JT KANSAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPUTER-COMMUNICATION-NETWORKS: organization-and-administration
(og). HEALTH-SERVICES-FOR-THE-AGED: organization-and-administration
(og). PARKINSON-DISEASE: diagnosis (di).
PHYSICIAN-PATIENT-RELATIONS. TELEMEDICINE:
organization-and-administration (og).
MN AGED. COMPUTER-COMMUNICATION-NETWORKS: trends (td).
HEALTH-SERVICES-FOR-THE-AGED: trends (td). HUMAN. KANSAS.
MEDICALLY-UNDERSERVED-AREA. MIDDLE-AGE. PARKINSON-DISEASE: therapy
(th). RURAL-POPULATION. TELEMEDICINE: trends (td).
YR 1992.
IS 8755-0059. KT4.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930316.

9

AN 93164536. 93053.
AU Allen-A. Cox-R. Thomas-C.
TI Telemedicine in Kansas.
SO Kans-Med. 1992 Dec. 93(12). P 323-5.
JT KANSAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ACADEMIC-MEDICAL-CENTERS: organization-and-administration (og).
CARDIOLOGY: methods (mt). COMPUTER-COMMUNICATION-NETWORKS:
organization-and-administration (og). HEART-DISEASES: diagnosis
(di). INTERINSTITUTIONAL-RELATIONS. PHYSICIAN-PATIENT-RELATIONS.
TELEMEDICINE: organization-and-administration (og).
MN ADULT. CARDIOLOGY: instrumentation (is), trends (td). CHILD.
HEART-DISEASES: therapy (th). HUMAN. KANSAS.
MEDICALLY-UNDERSERVED-AREA. TELEMEDICINE: trends (td).
YR 1992.

IS 8755-0059. KT4.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930316.

10

AN 93159507. 93053.
AU Roberts-A. Foster-R. Dennis-M. Davis-L. Wells-J. Bodemuller-M-F.
Bailey-C-A.
IN Division of Structural Biology, West Virginia School of Osteopathic
Medicine, Lewisberg 24901.
TI An approach to training and retaining primary care physicians in
rural Appalachia.
SO Acad-Med. 1993 Feb. 68(2). P 122-5.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The West Virginia School of Osteopathic Medicine (WVSOM) educated and
retained more primary care physicians for practice in rural
Appalachia than did any other U.S. medical school from 1978 through
1990. This article describes the most important methods used at
WVSOM to place physicians in rural areas: (1) The school has a
focused, achievable mission (to provide primary care physicians who
are trained to meet the medical needs of rural Appalachia and to
improve the health care of the rural Appalachian population) that is
agreed upon by the administration, faculty, and students; (2) it
participates in a multistate educational exchange program with a
similar mission; (3) it emphasizes personalized and interactive
recruiting, admission, and placement processes aimed to attract
nontraditional, rural students; (4) it provides early and long-term
clinical training in rural sites (both hospitals and physicians'
offices); (5) it is dedicated primarily to the education of medical
students rather than to research or other goals; and (6) it is a
freestanding school in a rural environment. The authors state that
although WVSOM is unusual in some respects, at least some of its
methods may be useful to other medical schools as they seek to
produce more primary care physicians for rural and other *underserved*
areas. Author-abstract.
MJ CAREER-CHOICE. OSTEOPATHIC-MEDICINE: education (ed).
PERSONNEL-SELECTION: methods (mt). PRIMARY-HEALTH-CARE:
organization-and-administration (og). RURAL-HEALTH.
SCHOOLS-MEDICAL: organization-and-administration (og).
MN APPALACHIAN-REGION. CURRICULUM. FACULTY-MEDICAL:
supply-and-distribution (sd), standards (st). HUMAN.
INTERPROFESSIONAL-RELATIONS. *MEDICALLY-UNDERSERVED-AREA.*
ORGANIZATIONAL-OBJECTIVES. OSTEOPATHIC-MEDICINE: manpower (ma).
PERSONNEL-SELECTION: organization-and-administration (og).
PRECEPTORSHIP. SCHOOLS-MEDICAL: standards (st). STUDENTS-MEDICAL:
psychology (px). WEST-VIRGINIA.
SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1993.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930312.

11

AN 93149286. 93051.
AU Brady-W-M.
TI The way it was. A Carteret County physician recounts the beginnings of his practice 40 years ago.
SO N-C-Med-J. 1993 Jan. 54(1). P 38-40.
JT NORTH CAROLINA MEDICAL JOURNAL.
PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HOSPITALS-MUNICIPAL: history (hi). *MEDICALLY-UNDERSERVED-AREA.*
RURAL-HEALTH: history (hi).
MN HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. NORTH-CAROLINA.
YR 1993.
IS 0029-2559. NTX.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930304.

12

AN 93142202. 93044.
AU Franken-R.
TI Rural medical practice: the voice of experience `letter:.
SO Tex-Med. 1992 Nov. 88(11). P 7.
JT TEXAS MEDICINE.
PT LETTER (LET).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* PROFESSIONAL-PRACTICE: trends (td).
RURAL-HEALTH: trends (td).
MN HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN. TEXAS.
YR 1992.
IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930225.

13

AN 93141604. 93044.
AU Tomashevskii-A-F.
TI `Optimal methods for the detection of tuberculosis in not easily accessible regions of the Extreme North by bacteriological screening:.
TT Optimizatsiia vyivleniia tuberkuleza v trudnodostupnykh regionakh Krainego Severa s pomoshch'iu bakteriologicheskogo skrininga.
SO Probl-Tuberk. 1992. (7-8). P 9-11.

JT PROBLEMY TUBERKULEZA.
 PT JOURNAL-ARTICLE (ART).
 LG Russian (RS).
 AB The results of bacteriological study of 2210 residents of the Extreme North are presented. The author's complex many factorial system of bacteriological screening is discussed, whose use will enable one to raise the detection parameter of bacilli excretors up to 2.93% in the preliminary detected population groups. Author-abstract.
 MJ ABORIGINES. MASS-SCREENING: methods (mt).
 MYCOBACTERIUM-TUBERCULOSIS: isolation-and-purification (ip).
 TUBERCULOSIS-PULMONARY: diagnosis (di).
 MN ADULT. ARCTIC-REGIONS. BACTERIOLOGICAL-TECHNIQUES: standards (st).
 ENGLISH-ABSTRACT. HUMAN. MASS-SCREENING: standards (st).
 MEDICALLY-UNDERSERVED-AREA. MIDDLE-AGE. RUSSIA. SIBERIA.
 TUBERCULOSIS-PULMONARY: microbiology (mi), prevention-and-control (pc).
 YR 1992.
 IS 0032-9533. PQE.
 CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
 IM 9304.
 ND ENTRY DATE: 930223.

14

AN 93136718. 93044.
 AU McCoy-C-B. Khoury-E-L. Hermanns-L-S. Bankston-L.
 IN University of Miami School of Medicine, Miami, Florida.
 TI Mobile mammography: a model program for *medically* *underserved* women.
 SO Womens-Health-Issues. 1992 Winter. 2(4). P 196-203; discussion 203-5.
 JT WOMENS HEALTH ISSUES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ MAMMOGRAPHY. MASS-SCREENING: organization-and-administration (og).
 MEDICALLY-UNDERSERVED-AREA. MOBILE-HEALTH-UNITS.
 MN ADULT. AGED. BREAST-NEOPLASMS: prevention-and-control (pc).
 COMMUNITY-HEALTH-CENTERS. COST-BENEFIT-ANALYSIS.
 FEASIBILITY-STUDIES. FEMALE. FLORIDA. HEALTH-PROMOTION.
 HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN. MAMMOGRAPHY:
 economics (ec). MIDDLE-AGE. POVERTY. SUPPORT-NON-U-S-GOVT.
 YR 1992.
 IS 1049-3867. BJY.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9304.
 ND ENTRY DATE: 930224.

15

AN 93133513. 93043.
 TI The path to public service.
 SO N-Y-State-Dent-J. 1993 Jan. 59(1). P 42-3.
 JT NEW YORK STATE DENTAL JOURNAL.

PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *MEDICALLY-UNDERSERVED-AREA.* PUBLIC-HEALTH-DENTISTRY.
 MN CHILD. COMMUNITY-HEALTH-CENTERS. DENTAL-CARE. HUMAN.
 MEDICAL-INDIGENCY. NEW-YORK-CITY.
 SB Dental Journals (D).
 YR 1993.
 IS 0028-7571. OB6.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9304.
 ND ENTRY DATE: 930218.

16

AN 93133161. 93043.
 AU Brauer-G-W.
 IN School of Health Information Science, University of Victoria, Canada.
 TI Telehealth: the delayed revolution in health care.
 SO Med-Prog-Technol. 1992. 18(3). P 151-63.
 JT MEDICAL PROGRESS THROUGH TECHNOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB It is recognized that health care in rural communities could be improved significantly with the assistance of telehealth, the term by which the combined application of computer and telecommunications technologies to health care has come to be known. Yet in spite of its obvious potential, the telehealth literature has shown a surprising lack of growth. This paper reports an analysis which revealed that, between 1975 and 1990, few telehealth articles were catalogued by the National Library of Medicine, and suggests why this might have been the case. Following a brief discussion of the origins of telehealth, terminology, and the rural health care crisis, this overview examines the status of telehealth in terms of its main applications: telemedicine and tele-education. An analysis of the pattern of publications between 1975 and 1990 is then used to suggest why telehealth has not fulfilled its potential. Corrective measures are proposed and the paper concludes with a summary of recent telehealth initiatives. Author-abstract.
 MJ COMPUTER-COMMUNICATION-NETWORKS: trends (td).
 MN DECISION-MAKING-COMPUTER-ASSISTED. HUMAN.
 INFORMATION-STORAGE-AND-RETRIEVAL: trends (td).
 MEDICALLY-UNDERSERVED-AREA. PUBLISHING: trends (td).
 RADIOLOGY-INFORMATION-SYSTEMS: trends (td). RURAL-HEALTH: trends (td). TELEMETRY: trends (td). UNITED-STATES.
 SB Priority Journals (M).
 YR 1992.
 IS 0047-6552. M9H.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9304.
 ND ENTRY DATE: 930218.

17

AN 93117923. 93041.
AU Velazquez-Diaz-G.
IN Programa IMSS-Solidaridad, Mexico.
TI `Organization and functioning of health services of the
IMSS-Solidaridad program:.
TT Organizacion y funcionamiento de los servicios de salud del programa
IMSS-Solidaridad.
SO Salud-Publica-Mex. 1992 Nov-Dec. 34(6). P 644-52.
JT SALUD PUBLICA DE MEXICO.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
AB In this report the organization and performance of the
IMSS-Solidaridad Program of Mexico is described. This program is
managed by the Mexican Institute for Social Security, which services
10.5 million inhabitants of the rural *underserved* areas, with federal
government resources in 18 states. This study compares the structure
and functioning of the IMSS-Solidaridad Program with Local Health
Systems, as they have been proposed by the Panamerican Health
Organization for country members and by the Ministry of Health of
Mexico, particularly in relation to the decision-making process at
local level. Some assets and limitations of the IMSS-Solidaridad
Program are analyzed and, finally, concrete procedures to improve
coordination between the IMSS-Solidaridad Program and other health
services for similar populations (populations without social security
protection) in Mexico are suggested, with the purpose of using
resources more adequately and succeed in the national goal to achieve
equity in health. Author-abstract.
MJ HEALTH-SERVICES: organization-and-administration (og). RURAL-HEALTH.
SOCIAL-SECURITY.
MN ENGLISH-ABSTRACT. HUMAN. INFANT-NEWBORN.
MEDICALLY-UNDERSERVED-AREA. MEXICO.
YR 1992.
IS 0036-3634. UY1.
CP MEXICO (Z1.107.567.589).
IM 9304.
ND ENTRY DATE: 930129.

18

AN 93103863. 93035.
AU Pape-J-W. Deschamps-M-M. Verdier-R-I. Jean-S. Desvarieux-M.
Taverne-G. Gelin-C. Hyppolite-P-R. Denize-J. Mellon-R. et al.
IN Division of International Medicine, Cornell University Medical
College, New York, NY 10021.
TI The urge for an AIDS vaccine: perspectives from a developing country.
SO AIDS-Res-Hum-Retroviruses. 1992 Aug. 8(8). P 1535-7.
JT AIDS RESEARCH AND HUMAN RETROVIRUSES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB AIDS is inexorably involving all parts of the country and all strata

of society, with 10% of the urban and 3% of the rural population infected with HIV. It is increasingly a disease of women and children. The major cofactors for transmission are also sexually transmitted. For most developing countries, in spite of all education efforts, the "silent epidemic" of AIDS continues. AIDS is known but not understood; counselling modifies behavior in only 10-20% of at-risk persons. Under optimal conditions, HIV discordant females have seroconversion rates of 4.7% per year and pregnancy rates of 10.4% per year. The recent political unrest in Zaire and Haiti will further enhance the spread of AIDS in these countries. Despite these difficult periods, the work can and must continue. After all, during our 10th year of collaboration with a Haitian private research group, the Haitian government and Cornell University, Haiti has known seven different political rulers. Finally, I want to make a pledge on behalf of the millions of people who face a certain death from HIV infection and AIDS and who will never make the front page of any newspaper. For these people, you can make a difference. You must give us the tools to carry on this fight. The clinical trials must be done where they are most needed: the developing countries. Vaccines represent the only viable alternative despite the recognized obstacles of viral heterogeneity, immunogenicity, and delivery. Author-abstract.

MJ AIDS-VACCINES. DEVELOPING-COUNTRIES. HIV-INFECTIONS: prevention-and-control (pc).

MN ADULT. ATTITUDE-TO-HEALTH. COHORT-STUDIES. CULTURE. FEMALE. HAITI: epidemiology (ep). HUMAN. HIV-INFECTIONS: epidemiology (ep), psychology (px), transmission (tm). HIV-SEROPREVALENCE. INCIDENCE. INFANT-NEWBORN. MALE. *MEDICALLY-UNDERSERVED-AREA.* MIDDLE-AGE. PREGNANCY. PREGNANCY-COMPLICATIONS-INFECTIOUS: epidemiology (ep). RISK-FACTORS. SEX-BEHAVIOR. SUPPORT-U-S-GOVT-P-H-S.

RN 0 -- AIDS-Vaccines.

SB Priority Journals (M).

YR 1992.

IS 0889-2229. ART.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

NO AI2262407. GRANT: AI. INSTITUTE: NIAID.

19

AN 93094621. 93033.

AU Shah-P-A.

IN Department of Surgery, LTMGH, Sion, Bombay.

TI Medical admissions: a confusing disease.

SO J-Indian-Med-Assoc. 1992 Aug. 90(8). P 213-5.

JT JOURNAL OF THE INDIAN MEDICAL ASSOCIATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB It is strictly for admission to undergraduate medical courses. (i)
50% of seats should be reserved for local candidate on merit of HSC,

with academic year starting after the HSC results. (ii) 20% of seats should be reserved for candidates coming from rural areas, on the basis of merit at HSC, with academic year starting after HSC results. (iii) 30% of seats to be filled by an all-India competitive examination. The academic year to start 6 months after the HSC results. A ceiling of minimum number of marks and a minimum number of attempts for eligibility to the all-India PMT would make the conduct of such an examination more practical. Author-abstract.

MJ SCHOOL-ADMISSION-CRITERIA. SCHOOLS-MEDICAL.
MN EDUCATIONAL-MEASUREMENT. HUMAN. INDIA. *MEDICALLY-UNDERSERVED-AREA.*
PHYSICIANS: supply-and-distribution (sd). RURAL-HEALTH.
YR 1992.
IS 0019-5847. IFR.
CP INDIA (Z1.252.245.393).
IM 9303.
ND ENTRY DATE: 930114.

20

AN 93086205. 93032.
AU Hong-W. Kindig-D-A.
IN Health Management Training Center, Beijing Medical University School of Public Health, China.
TI The relationship between commuting patterns and health resources in nonmetropolitan counties of the United States.
SO Med-Care. 1992 Dec. 30(12). P 1154-8.
JT MEDICAL CARE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EMPLOYMENT: trends (td). HEALTH-RESOURCES: supply-and-distribution (sd). RURAL-POPULATION. TRAVEL.
MN ADOLESCENCE. ADULT. HEALTH-MANPOWER: statistics-and-numerical-data (sn). HEALTH-RESOURCES: utilization (ut).
HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn).
HEALTH-SERVICES-RESEARCH. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
MIDDLE-AGE. PHYSICIANS: supply-and-distribution (sd).
POPULATION-DENSITY. RESIDENCE-CHARACTERISTICS.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0025-7079. LSM.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930107.
NO 240890037.

21

AN 93079583. 93031.
AU Carlton-LaNey-I.
IN Department of Sociology, Anthropology and Social Work, University of North Carolina, Charlotte 28223.

TI Elderly black farm women: a population at risk.
 SO Soc-Work. 1992 Nov. 37(6). P 517-23.
 JT SOCIAL WORK.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Elderly black farm women are a neglected segment of the elderly population. Their self-reliance, mutual support, and rurality have helped keep them isolated and *underserved.* This article describes the productive life-styles that 10 such women in southeastern North Carolina recalled in oral-history interviews and the problems these women face because of their advancing age, poor health, caregiving responsibilities, and isolation and the deterioration of traditional resources. Author-abstract.
 MJ AGRICULTURE. BLACKS. WOMENS-HEALTH.
 MN AGE-FACTORS. AGED. BLACKS: psychology (px), statistics-and-numerical-data(sn). CAREGIVERS. DEPENDENCY-PSYCHOLOGY. FAMILY. FEMALE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NORTH-CAROLINA. POVERTY. QUALITY-OF-LIFE. QUESTIONNAIRES. ROLE. RURAL-POPULATION. SOCIAL-ISOLATION. SOCIAL-SUPPORT.
 YR 1992.
 IS 0037-8046. UUD.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 921228.

22

AN 93078535. 93031.
 AU Kobayashi-Y. Takaki-H.
 IN Department of Public Health, Teikyo University School of Medicine, Tokyo, Japan.
 TI Geographic distribution of physicians in Japan.
 SO Lancet. 1992 Dec 5. 340(8832). P 1391-3.
 JT LANCET.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB In the 1970s, Japan's physician manpower policy was to increase the number of medical students and medical schools to ease the difficulties caused by shortage of doctors and their maldistribution. 34 medical schools were established during this time, which eventually doubled the number of newly certificated physicians from about 4000 to about 8000 per year by the mid 1980s. To examine the success of this policy, we analysed the numbers of physicians in relation to the population in all municipal bodies (n = 3268) in Japan. Between 1980 and 1990, the number of practising physicians increased by about 37%, and the ratio of physicians per 100,000 population increased from 127 to 165 throughout the country. However, analyses by the Lorenz curve and the Gini coefficient indicated that the inequality in physician distribution did not improve. While municipal bodies with a population over 30,000 gained

proportionally more physicians, most communities with fewer than 10,000 residents showed little gain. Our findings have important implications for policy changes now being considered by the government to plan the future supply of physician manpower in Japan. A policy that will alleviate physician maldistribution also needs to be devised. Author-abstract.

MJ HEALTH-MANPOWER: statistics-and-numerical-data (sn).
PHYSICIANS:supply-and-distribution (sd).
MN EDUCATION-MEDICAL. HUMAN. JAPAN. *MEDICALLY-UNDERSERVED-AREA.*
SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0023-7507. L0S.
CP ENGLAND (Z1.542.363.300).
IM 9303.
ND ENTRY DATE: 921230.

23

AN 93074709. 93021.
AU Dickinson-J.
TI Rural doctors.
SO Aust-Fam-Physician. 1992 Oct. 21(10). P 1504-5.
JT AUSTRALIAN FAMILY PHYSICIAN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CROSS-CULTURAL-COMPARISON. HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH: trends (td).
MN AUSTRALIA. HUMAN. UNITED-STATES.
YR 1992.
IS 0300-8495. 9EC.
CP AUSTRALIA (Z1.338).
IM 9302.
ND ENTRY DATE: 921207.

24

AN 93064780. 93021.
AU Auclair-R-A. Dallabrida-D.
IN Goldman, Marshall & Muszynski, Philadelphia, PA 19102.
TI Restrictive covenants in physician employment agreements.
SO Pa-Med. 1992 Nov. 95(11). P 16-9.
JT PENNSYLVANIA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Virtually all physician employment relationships are governed by employment agreements in which the physician and employer exchange promises. When embodied in contracts, promises are also known as "covenants." Certain covenants are restrictive in nature, including, most notably, covenants which prohibit competition ("non-competes"). Legal considerations regarding non-competes in particular center

around the law of restrictive covenants in general. This article identifies legal issues which exist with respect to restrictive covenants under Pennsylvania law and offers certain caveats with respect to the negotiation of the non-competition components of the physician employment agreements. Author-abstract.

MJ CONTRACT-SERVICES: legislation-and-jurisprudence (lj).
ECONOMIC-COMPETITION: legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
MEDICALLY-UNDERSERVED-AREA.
MN HUMAN. PENNSYLVANIA.
YR 1992.
IS 0031-4595. OOG.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921222.

25

AN 93062580. 93021.
AU Larson-D-M.
TI Rural EMS: making it work in Minnesota `interview:.
SO Minn-Med. 1992 Nov. 75(11). P 7-9.
JT MINNESOTA MEDICINE.
PT INTERVIEW (INT).
LG English (EN).
MJ EMERGENCY-MEDICAL-SERVICES: trends (td). RURAL-HEALTH: trends (td).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MINNESOTA.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921222.

26

AN 93062569. 93021.
AU Benda-C.
TI Emergency medicine. The rural challenge.
SO Minn-Med. 1992 Nov. 75(11). P 14-8.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Overcrowding, stress-related job burnout for emergency room physicians and other personnel, violence spilling over into the hospital with the surge in gang activity--it's the stuff of movies and, increasingly, real life in urban emergency departments, even in Minnesota. The trials and tribulations of providing emergency medical care in our metropolitan areas are well documented, both in professional journals and the conventional media. It's dramatic--lives hang in the balance--and it's important to everyone, since those who will one day require emergency medical care must

entrust their well-being to this system. But it's only part of the story. Author-abstract.

MJ EMERGENCY-MEDICAL-SERVICES: trends (td). RURAL-HEALTH: trends (td).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MINNESOTA. PATIENT-CARE-TEAM: trends (td). QUALITY-ASSURANCE-HEALTH-CARE: trends (td).
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921222.

27

AN 93059974. 93021.
AU Ginzberg-E.
IN Eisenhower Center, Columbia University, New York, NY.
TI Physician supply policies and health reform.
SO JAMA. 1992 Dec 2. 268(21). P 3115-8.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-POLICY. PHYSICIANS: supply-and-distribution (sd).
MN FEMALE. HEALTH-EXPENDITURES. HEALTH-SERVICES-ACCESSIBILITY. HUMAN. MALE. *MEDICALLY-UNDERSERVED-AREA.* *MEDICALLY-UNINSURED.*
SCHOOLS-MEDICAL: economics (ec), organization-and-administration (og). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921214.

28

AN 93053768. 93021.
AU Baquet-C-R. Marconi-K. Alexander-G.
IN Cancer Control Science Program, National Cancer Institute, National Institutes of Health, Bethesda, MD 20892-4200.
TI Moving from health care research to action.
SO Henry-Ford-Hosp-Med-J. 1992. 40(1-2). P 66-70.
JT HENRY FORD HOSPITAL MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Although the United States spends more on health care than any country in the world, access to that care is becoming increasingly difficult. The National Cancer Institute and other federal agencies are sponsoring innovative research for delivering effective medical services, particularly to *underserved* populations. Models of successful collaboration between private and public sectors concerned

with health care can be adapted and implemented at the national, state, and local levels. However, other measures are needed to ensure access to adequate health care for all Americans. Minimal but effective regulations are needed to ensure quality control, reduce duplication of services, and minimize cost increases. Public and private sectors also need to consider ways to extend adequate health insurance coverage to all Americans and to provide compensation for preventive services. Author-abstract.

MJ HEALTH-SERVICES-ACCESSIBILITY: organization-and-administration (og).
HEALTH-SERVICES-RESEARCH. INTERINSTITUTIONAL-RELATIONS.
MN COST-CONTROL. HEALTH-SERVICES-ACCESSIBILITY: standards (st). HUMAN.
MEDICALLY-UNDERSERVED-AREA. MODELS-ORGANIZATIONAL.
QUALITY-OF-HEALTH-CARE. UNITED-STATES.
YR 1992.
IS 0018-0416. G63.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921223.

29

AN 93053750. 93021.
AU Getzenberg-J-L. Lenihan-D-P.
IN Chicago Department of Health, Office of Planning, IL 60602.
TI Federal, state, and local partnerships in providing primary care: one urban health department's endeavor with a state university medical center.
SO Henry-Ford-Hosp-Med-J. 1992. 40(1-2). P 13-5.
JT HENRY FORD HOSPITAL MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB We describe how the federal government, the City of Chicago, and the State of Illinois worked together to increase the availability and accessibility of health care services on Chicago's *underserved* west side by reopening a bankrupt, federally-funded community health center. The federal government made the building available to the City which then contracted with a state university medical center to be the provider of services. This partnering has allowed the Chicago Department of Health to offer services in a previously *underserved* area. The University has gained an opportunity for community-based primary care teaching, as well as community relations. Patients have increased access to a wide variety of specialty and inpatient care. If public health providers are to be successful in this financial climate, they must look to new partners and new ways of delivering services to increase availability of services at a time when they are greatly needed. Author-abstract.
MJ ACADEMIC-MEDICAL-CENTERS: organization-and-administration (og).
COMMUNITY-HEALTH-CENTERS: organization-and-administration (og).
INTERINSTITUTIONAL-RELATIONS. PRIMARY-HEALTH-CARE:
organization-and-administration (og). URBAN-HEALTH.
MN CHICAGO. HEALTH-SERVICES-ACCESSIBILITY: standards (st). HUMAN.

MEDICALLY-UNDERSERVED-AREA. PUBLIC-HEALTH-ADMINISTRATION.
STATE-GOVERNMENT.

YR 1992.

IS 0018-0416. G63.

CP UNITED-STATES (Z1.107.567.875).

IM 9302.

ND ENTRY DATE: 921223.

30

AN 93039326. 93021.

AU Soyannwo-O-A.

TI Nurse anaesthetists in the Gambia `letter:.

SO World-Health-Forum. 1992. 13(2-3). P 208-10.

JT WORLD HEALTH FORUM.

PT LETTER (LET).

LG English (EN).

MJ DEVELOPING-COUNTRIES. MATERNAL-CHILD-HEALTH-CENTERS.

MEDICALLY-UNDERSERVED-AREA. MIDWIFERY: education (ed).

NURSE-ANESTHETISTS: education (ed).

MN CURRICULUM. FEMALE. GAMBIA. HUMAN. INFANT-NEWBORN. PREGNANCY.

YR 1992.

IS 0251-2432. AD2.

CP SWITZERLAND (Z1.542.883).

IM 9302.

ND ENTRY DATE: 921209.

31

AN 93039225. 93021.

AU Norman-A-W. Calkins-E-V.

IN Division of Biomedical Sciences, University of California, Riverside.

TI Curricular variations in combined baccalaureate-M.D. programs.

SO Acad-Med. 1992 Nov. 67(11). P 785-91.

JT ACADEMIC MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The authors review curricular characteristics of combined baccalaureate-M.D. programs at 28 U.S. medical schools from 1961, when the first programs started, until 1991-92. Initially, in the 1960s, these programs were created (1) to offer talented high school graduates an accelerated track leading to the baccalaureate and M.D. degrees, (2) to reduce educational expenses, (3) to improve education in the humanities, and (4) to attract outstanding students into careers in medicine. In the 1970s these objectives were modified to address national health care needs, particularly the need to graduate more physicians more quickly, especially primary care physicians for *underserved* areas. In the 1980s the objectives were broadened to achieve more diverse goals, including emphases on the humanities, community medicine, and biotechnology, in addition to the continued stress on the education of primary care physicians.
Author-abstract.

MJ CURRICULUM. EDUCATION-MEDICAL-UNDERGRADUATE: methods (mt).
 EDUCATION-PREMEDICAL: methods (mt).
 MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS-FAMILY: education
 (ed), supply-and-distribution (sd).UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1992.
 IS 1040-2446. ACM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9302.
 ND ENTRY DATE: 921214.

32

AN 93030963. 93011.
 AU Kafle-K-K. Gartoulla-R-P. Pradhan-Y-M. Shrestha-A-D. Karkee-S-B.
 Quick-J-D.
 IN Institute of Medicine, Tribhuvan University Teaching Hospital,
 Kathmandu, Nepal.
 TI Drug retailer training: experiences from Nepal.
 SO Soc-Sci-Med. 1992 Oct. 35(8). P 1015-25.
 JT SOCIAL SCIENCE AND MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Sale of modern medicines by untrained peddlers, general merchants,
 and other drug sellers is common throughout the developing world.
 Drug sellers operating in the 'informal sector' are often the first
 source of health care outside the home. Reasons given by patients
 for using private drug sellers include expediency, convenience,
 efficacy of the medicines, dependability of supply, and reasonable
 cost. At the same time, self-medication through private drug sellers
 can be ineffective, wasteful, and at times distinctly harmful.
 Regulatory approaches to controlling drug selling in the informal
 sector, widely endorsed on paper through national drug control
 legislation, require a cadre of professional regulatory staff and
 enforcement mechanisms which are too often beyond the current
 economic and political reach of countries. In Nepal, where rugged
 terrain has limited infrastructure development, the doctor to
 population ratio is 1:23,000, utilization of government health
 services averages only 0.2 visits per person per year. Retail drug
 outlets outnumber health posts and health centers by a ratio of 4:1
 and private drug sellers often offer the only access to modern
 medicine for much of the population. Community surveys have found
 that drug retailers are very often the first and only source of
 health care outside the home. Given the importance of retail drug
 outlets and the lack of trained pharmacists, the Department of Drug
 Administration in 1981 established a 45-hr course for drug retailers
 which emphasized practical training as well as formal teaching on
 pharmacology, ethics, storage of drugs, and legal issues. By the end
 of 1989, 4096 drug retailers had graduated from the course. Still
 run by the Ministry of Health Department of Drug Administration, the
 course has proven to be administratively feasible and has been quite

popular with drug retailers. Initial reservations expressed by doctors and some pharmacists were soon overcome, and the course is now well accepted by professional groups. Because the course is offered in different locations, geographic coverage has also been very good despite Nepal's logistic constraints. The operating cost of the course averages about U.S. \$18 per trainee. Informal evaluations have resulted in plans for refresher training more narrowly focused on safe dispensing and appropriate referral for a limited number of important public health problems. Since 50-90% of pharmaceutical expenditures typically pass through the informal private sector in developing countries, it is suggested that other countries consider focused drug retailer training as a response to the problems of manpower shortages and drug dispensing by unqualified staff. Author-abstract.

MJ DRUG-INDUSTRY. EDUCATION-PHARMACY: organization-and-administration (og). SELF-MEDICATION.
MN COSTS-AND-COST-ANALYSIS. CURRICULUM. EDUCATION-PHARMACY: economics (ec). HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NEPAL. ORGANIZATIONAL-OBJECTIVES. PRIVATE-SECTOR. PROGRAM-DEVELOPMENT. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1992.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 9301.
ND ENTRY DATE: 921119.

33

AN 93025954. 93011.
AU Bigbee-J-L.
IN Samuel Merritt College, School of Nursing, Oakland, Calif.
TI Frontier areas: opportunities for NPs' primary care services.
SO Nurse-Pract. 1992 Sep. 17(9). P 47-50, 53-4, 57.
JT NURSE PRACTITIONER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Demographers have recently designated frontier areas as distinct from other rural areas. Frontier counties are defined as those with less than six persons per square mile; as such, they constitute 45 percent of the U.S. land mass and include 2.2 million people. The health status among frontier residents is estimated to be lower than that of other rural or urban populations, and frontier health services, particularly primary care services, are scant. In this article, opportunities for nurse practitioners in frontier practice are explored, including specific suggestions for the development of new frontier NP practices. Author-abstract.
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSE-PRACTITIONERS: standards (st). POPULATION-DENSITY. PRIVATE-PRACTICE: organization-and-administration (og). RURAL-HEALTH.
MN CAREER-MOBILITY. HEALTH-MANPOWER: statistics-and-numerical-data

(sn), standards (st).HEALTH-SERVICES-ACCESSIBILITY:
 statistics-and-numerical-data (sn), standards (st).
 HEALTH-SERVICES-NEEDS-AND-DEMAND: statistics-and-numerical-data (sn),
 standards (st). HEALTH-STATUS. HUMAN. PRIVATE-PRACTICE: economics
 (ec). REFERRAL-AND-CONSULTATION: statistics-and-numerical-data (sn),
 standards (st). SPECIALTIES-MEDICAL: statistics-and-numerical-data
 (sn), standards (st). UNITED-STATES.
 SB Priority Journals (M). Nursing Journals (N).
 YR 1992.
 IS 0361-1817. OA1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921120.

34

AN 93024183. 93011.
 AU Yawn-B-P. Yawn-R-A.
 TI Health care reform in Minnesota. Implications for the rural
 physician.
 SO Minn-Med. 1992 Sep. 75(9). P 11-4.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Minnesota's health care reform plan (by any name) is a
 cost-containment bill with provisions to provide health insurance for
 some uninsured people, to examine quality of care, to increase
 support for rural provider education and migration to rural practice,
 and to develop state and regional health planning procedures. It is
 an ambitious bill with very tight time frames, vague language, and
 heavy reliance on regional commissions and volunteer groups that are
 just now being established. Will it have an impact on rural health
 care? Undoubtedly, it will. But somewhere between what the bill
 says and the desired outcome is a void that physicians can help fill
 with constructive work and criticism. If physicians do not take the
 lead, someone else will fill that void--nonphysician providers,
 legislators, bureaucrats, or consumers. Or the structure could
 implode, taking all of us with it. Author-abstract.
 MJ MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj).
 MEDICALLY-UNDERSERVED-AREA. PRIMARY-HEALTH-CARE:
 legislation-and-jurisprudence (lj). RURAL-HEALTH.
 MN COST-BENEFIT-ANALYSIS: legislation-and-jurisprudence (lj). HUMAN.
 MANAGED-CARE-PROGRAMS: economics (ec). MINNESOTA.
 PRIMARY-HEALTH-CARE: economics (ec).
 YR 1992.
 IS 0026-556X. NBY.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921029.

35

AN 93022178. 93011.
 AU Swanson-J. Lee-C-A.
 TI Restructuring health care systems with nurse practitioners in rural western Kansas: a feasibility study.
 SO Kans-Nurse. 1992 Oct. 67(10). P 8-10.
 JT KANSAS NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ NURSE-PRACTITIONERS. RURAL-HEALTH.
 MN DEMOGRAPHY. EMPLOYMENT. FAMILY. FEASIBILITY-STUDIES. HUMAN. KANSAS. *MEDICALLY-UNDERSERVED-AREA.*
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 0022-8710. KU3.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921125.

36

AN 93017816. 93011.
 AU Sims-T.
 TI Rural physicians have chance to make a difference.
 SO Indiana-Med. 1992 Jul-Aug. 85(4). P 288-91.
 JT INDIANA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-POPULATION.
 MN HUMAN. INDIANA. PROFESSIONAL-PRACTICE-LOCATION.
 YR 1992.
 IS 0746-8288. IDA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921117.

37

AN 93013665. 93011.
 AU Petti-T-A. Cornely-P-J. Sonis-M. Board-G.
 IN Indiana University School of Medicine, Indianapolis.
 TI State-university collaboration to enhance public psychiatric services in western Pennsylvania.
 SO Hosp-Community-Psychiatry. 1992 Oct. 43(10). P 996-1000.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A collaboration established in 1974 between the Pennsylvania State Office of Mental Health and Western Psychiatric Institute and Clinic of the University of Pittsburgh Medical Center provides a comprehensive program of continuing mental health education, skills development, and program consultation to state hospitals and publicly

funded community programs in rural and semirural western Pennsylvania. The authors describe the development of the program and discuss its current organization and activities. In 1990-91 a total of 60 faculty and 150 staff members from the institute contributed more than 1,200 hours of direct programming. The collaboration's activities have broadened in both hospital and community sectors and currently involve all of the university's health and medical care schools. Author-abstract.

MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration (og). HOSPITALS-PSYCHIATRIC: organization-and-administration (og). *MEDICALLY-UNDERSERVED-AREA.* PUBLIC-HEALTH-ADMINISTRATION.
MN AREA-HEALTH-EDUCATION-CENTERS. COMMUNITY-INSTITUTIONAL-RELATIONS. CURRICULUM. HEALTH-EDUCATION: trends (td). HEALTH-RESOURCES: trends (td). HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HOSPITALS-UNIVERSITY: organization-and-administration (og). HUMAN. PENNSYLVANIA. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921123.

38

AN 93012118. 93011.
AU Platt-D.
TI More on "primary care physicians" `letter:.
SO Del-Med-J. 1992 Sep. 64(9). P 590.
JT DELAWARE MEDICAL JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ ACCREDITATION. FAMILY-PRACTICE: manpower (ma). INTERNSHIP-AND-RESIDENCY. *MEDICALLY-UNDERSERVED-AREA.*
MN DELAWARE. FAMILY-PRACTICE: education (ed). HUMAN.
YR 1992.
IS 0011-7781. E0B.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921118.

39

AN 93007617. 93011.
AU Gojer-J-A.
IN Centracare Saint John Inc., NB.
TI Providing mental health services in northern Newfoundland, Labrador a unique challenge.
SO Can-Med-Assoc-J. 1992 Oct 15. 147(8). P 1209, 1212.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

MJ MENTAL-HEALTH-SERVICES: organization-and-administration (og).
 RURAL-HEALTH.
 MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MENTAL-DISORDERS: classification
 (c1). NEWFOUNDLAND. SUICIDE: statistics-and-numerical-data (sn).
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1992.
 IS 0008-4409. CKW.
 CP CANADA (Z1.107.567.176).
 IM 9301.
 ND ENTRY DATE: 921113.

40

AN 93003984. 93011.
 TI Alcohol and other drug abuse: changing lives through research and
 treatment. Proceedings of the 4th National Conference on Health Care
 for the Poor and *Underserved.* Nashville, Tennessee, October 1991.
 SO *J-Health-Care-Poor-Underserved.* 1992 Summer. 3(1). P 1-257.
 JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
 PT CONGRESS (CON). OVERALL (OVR).
 LG English (EN).
 MJ ALCOHOLISM. *MEDICALLY-UNDERSERVED-AREA.* POVERTY.
 SUBSTANCE-ABUSE.
 MN HUMAN.
 YR 1992.
 IS 1049-2089. A4D.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921112.

41

AN 92389402. 92000.
 AU Rosenblatt-R-A. Whitcomb-M-E. Cullen-T-J. Lishner-D-M. Hart-L-G.
 IN WAMI Rural Health Research Center, University of Washington School of
 Medicine, Seattle 98195.
 TI Which medical schools produce rural physicians? `see comments:.
 CM Comment in: JAMA 1992 Sep 23-30;268(12):1597-8.
 SO JAMA. 1992 Sep 23-30. 268(12). P 1559-65.
 JT JAMA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB OBJECTIVE--To examine the hypothesis that medical schools vary
 systematically and predictably in the proportion of their graduates
 who enter rural practice. DESIGN--The December 1991 version of the
 American Medical Association Physician Masterfile was used to examine
 the rural and urban practice locations of physicians who graduated
 from American medical schools between 1976 and 1985. Selected
 characteristics of the medical schools--including location,
 ownership, and funding--were linked to the Physician Masterfile.
 MAIN OUTCOME MEASURES--The percentage of the graduates from each

medical school who were practicing in rural areas in December 1991, disaggregated by physician specialty. RESULTS--Of the practicing graduates from our study, 12.6% were located in rural counties; family physicians were much more likely than members of other specialties to select rural practice, particularly in the smallest and most isolated rural counties. Women were much less likely than men to enter rural practice. Medical schools varied greatly in the percentage of their graduates who entered rural practice, ranging from 41.2% to 2.3% of the graduating classes studied. Twelve medical schools accounted for over one quarter of the physicians entering rural practice in this time period. Four variables were strongly associated with a tendency to produce rural graduates: location in a rural state, public ownership, production of family physicians, and smaller amounts of funding from the National Institutes of Health. DISCUSSION--The organization, location, and mission of medical schools is closely related to the propensity of their graduates to select rural practice. Increasing policy coordination among medical schools and state and federal governmental entities would most effectively address residual problems of rural physician shortages. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution (sd). RURAL-HEALTH. SCHOOLS-MEDICAL: statistics-and-numerical-data (sn).
 MN CAREER-CHOICE. FEMALE. HUMAN. MALE. PHYSICIANS-FAMILY: supply-and-distribution (sd).PHYSICIANS-WOMEN: statistics-and-numerical-data (sn). PROFESSIONAL-PRACTICE-LOCATION. SPECIALTIES-MEDICAL: manpower (ma). SUPPORT-U-S-GOVT-NON-P-H-S. SUPPORT-U-S-GOVT-P-H-S. TRAINING-SUPPORT. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1992.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9212.
 ND ENTRY DATE: 921008.
 NO HAR0001703. GRANT: AR. INSTITUTE: NIAMS.

42

AN 92389401. 92000.
 AU Pathman-D-E. Konrad-T-R. Ricketts-T-C 3d.
 IN North Carolina Rural Health Research Program, Cecil G. Sheps Center for Health Services Research, University of North Carolina, Chapel Hill 27599-7590.
 TI The comparative retention of National Health Service Corps and other rural physicians. Results of a 9-year follow-up study `see comments:.
 CM Comment in: JAMA 1992 Sep 23-30;268(12):1597-8.
 SO JAMA. 1992 Sep 23-30. 268(12). P 1552-8.
 JT JAMA.
 PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To contrast the retention of physicians serving National Health Service Corps (NHSC) Scholarship Program obligations in rural settings to that of non-NHSC physicians working in the same or similar practices, and to identify promising retention-enhancing strategies. DESIGN--Cohort study. PARTICIPANTS--Four hundred twelve primary care physicians initially identified during an earlier study as working in a national stratified random sample of 178 externally subsidized rural clinics in 1981. Thirty-six percent were serving obligations to the NHSC, nearly all through the NHSC's Scholarship Program. The NHSC and non-NHSC inception cohorts (those first coming to their 1981 "index" practices from May 1979 through December 1981) were created from within the entire group for use in most analyses. INTERVENTION--In 1990, physicians were resurveyed to learn of their backgrounds, experiences in their index practices, and their subsequent career moves. RESULTS--By 1984 and in each year thereafter, fewer NHSC than non-NHSC physicians of the entire respondent cohort remained (1) in their index practices, (2) in their index communities, and (3) in practice in any rural county (P less than .001). In the inception cohort, fewer NHSC than non-NHSC physicians were retained within all three settings by the third year after their initial dates of employment (P less than or equal to .01). After 8 years of employment, group retention rates for NHSC and non-NHSC inception cohort physicians were 12% vs 39% in the index practice and 29% vs 52% in nonmetropolitan practice. Physicians in both NHSC and non-NHSC groups who left their index practices generally left rural practice altogether. CONCLUSIONS--When compared to non-NHSC physicians working in comparable rural settings, the retention of rural NHSC physicians is seen to be poor and only partially explained by fixed physician, practice, or community variables. Long-term retention of NHSC providers is now receiving much needed attention at the federal level. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution (sd). RURAL-HEALTH.

MN ADULT. CAREER-MOBILITY. COHORT-STUDIES. COMPARATIVE-STUDY. FEMALE. FOLLOW-UP-STUDIES. HUMAN. INTERNAL-MEDICINE: manpower (ma), statistics-and-numerical-data (sn). MALE. PEDIATRICS: manpower (ma), statistics-and-numerical-data (sn). PHYSICIANS-FAMILY: supply-and-distribution (sd). PROFESSIONAL-PRACTICE-LOCATION. QUESTIONNAIRES. SUPPORT-U-S-GOVT-NON-P-H-S. SUPPORT-U-S-GOVT-P-H-S. TRAINING-SUPPORT. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0098-7484. KFR.

CP UNITED-STATES (Z1.107.567.875).

IM 9212.

ND ENTRY DATE: 921008.

NO 1R01HS0654401. GRANT: HS. INSTITUTE: AHCPR.

43

AN 92382818. 92000.
AU Freudenberg-K.
IN Gloucester County Special Services School District, Sewell, NJ 08080.
TI The migrant farmworker: health care challenge.
SO N-J-Med. 1992 Aug. 89(8). P 581-5.
JT NEW JERSEY MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Migrant farmworkers comprise a severely *medically* *underserved* population, both nationally and in New Jersey. This article defines the migrant population, reviews their specific health problems, and illustrates the urgent need for the medical community's attention and resources. Author-abstract.
MJ AGRICULTURAL-WORKERS-DISEASES: prevention-and-control (pc).
HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).
MEDICALLY-UNDERSERVED-AREA.
MN ADOLESCENCE. ADULT. AGRICULTURAL-WORKERS-DISEASES: etiology (et), mortality (mo). CHILD. FEMALE. HUMAN. MALE. MIDDLE-AGE.
NEW-JERSEY. RISK-FACTORS.
YR 1992.
IS 0885-842X. N9R.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921001.

44

AN 92374381. 92000.
AU Meek-J-C.
TI UKSM-W is training physicians for *underserved* areas.
SO Kans-Med. 1992 Jul. 93(7). P 218-9.
JT KANSAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ INTERNSHIP-AND-RESIDENCY. *MEDICALLY-UNDERSERVED-AREA.*
PRIMARY-HEALTH-CARE: manpower (ma). SCHOOLS-MEDICAL.
MN ADULT. CHILD. HUMAN. KANSAS. MEDICAL-INDIGENCY.
YR 1992.
IS 8755-0059. KT4.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920923.

45

AN 92368827. 92000.
TI Stanford opens AIDS trials to residents of *underserved* communities
`news:.
SO Oncology (Huntingt). 1992 Aug. 6(8). P 95.
JT ONCOLOGY.

PT NEWS (NEW).
LG English (EN).
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: drug-therapy (dt).
MEDICALLY-UNDERSERVED-AREA.
MN CALIFORNIA. CLINICAL-TRIALS. HUMAN.
SB Priority Journals (M).
YR 1992.
IS 0890-9091. AVP.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920922.
CLASS UPDATE: 92.

46

AN 92358985. 92000.
AU Greer-T. Baldwin-L-M. Wu-R. Hart-G. Rosenblatt-R.
IN Department of Family Medicine, University of Washington School of
Medicine, Seattle 98195.
TI Can physicians be induced to resume obstetric practice? `see
comments:.
CM Comment in: J Am Board Fam Pract 1992 Jul-Aug;5(4):440-4.
SO J-Am-Board-Fam-Pract. 1992 Jul-Aug. 5(4). P 407-12.
JT JOURNAL OF THE AMERICAN BOARD OF FAMILY PRACTICE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND: Decreased numbers of obstetric providers during the last
decade have limited access to obstetrics care, especially for some
groups of women. Increasing or stabilizing the number of providers
could increase access. METHODS: A questionnaire was mailed in 1989
to 1965 Washington State family physicians and obstetricians to
determine their attitudes toward the practice of obstetrics.
Sixty-six percent of physicians responded to the survey. RESULTS: Of
those who had quit obstetrics in the previous 3 years, 42 percent of
responding family physicians and 19 percent of responding
obstetricians would consider resuming. Those family physicians
willing to consider resuming their obstetric practices were more
likely to have been in practice fewer years, employed by a health
maintenance organization (HMO), or located in a rural area. A
majority of all respondents cited excessive malpractice premiums and
fear of malpractice suit as reasons for stopping obstetric practice.
Family physicians willing to consider resuming obstetrics were more
concerned about the overall number of obstetric providers in their
area. Rural family physicians willing to consider resuming
obstetrics listed poor backup or shared call more often as a reason
they had quit. CONCLUSIONS: Attention targeted to the concerns of
family physicians who have been in practice for a short time, who
work for HMOs, or who are in rural practice might help induce some
physicians to resume obstetrics. Author-abstract.
MJ ATTITUDE-OF-HEALTH-PERSONNEL. FAMILY-PRACTICE. OBSTETRICS:
standards (st). PHYSICIANS: psychology (px).

MN CAREER-CHOICE. HUMAN. MALPRACTICE. MATERNAL-HEALTH-SERVICES:
manpower (ma), standards *(st).MEDICALLY-UNDERSERVED-AREA.*
OBSTETRICS: manpower (ma). PERSONNEL-SELECTION. QUESTIONNAIRES.
RURAL-HEALTH. SUPPORT-NON-U-S-GOVT. WASHINGTON.
SB Priority Journals (M).
YR 1992.
IS 0893-8652. 127.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920909.

47

AN 92355997. 92000.
AU Cotgrove-A-J. Bell-G. Katona-C-L.
IN Department of Psychiatry, University College and Middlesex School of
Medicine, Middlesex Hospital, London, U.K.
TI Psychiatric admissions and social deprivation: is the Jarman
underprivileged area score relevant?
SO J-Epidemiol-Community-Health. 1992 Jun. 46(3). P 245-7.
JT JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB STUDY OBJECTIVE--The aim was to assess the relationship between
social deprivation, as measured by the Jarman under-privileged area
score (UPA score), and psychiatric admission rates and length of stay
within an inner London borough. DESIGN--The study was a
retrospective survey of psychiatric admission rates for electoral
wards in the London borough of Islington in relation to Jarman UPA
scores and subscores. SETTING--Islington Health Authority
psychiatric admission wards at the Whittington and Friern Hospitals.
PATIENTS--All admissions during the year of 1985 were studied (n =
778). MAIN RESULTS--No correlation was found between the total
Jarman UPA score and either admission rates or length of stay. There
was, however, a correlation between the Jarman UPA subscore for
ethnic minorities and admission rates ($r = 0.409$, p less than 0.05),
and between the Jarman UPA subscore for lone parents and length of
stay ($r = 0.390$, p less than 0.05). CONCLUSIONS--The Jarman UPA
score at electoral ward level is not related to psychiatric
morbidity, and should not therefore be used for planning local
service provision. Author-abstract.
MJ HOSPITALS-PSYCHIATRIC: utilization (ut). *MEDICALLY-UNDERSERVED-AREA.*
MENTAL-DISORDERS: epidemiology (ep). PATIENT-ADMISSION:
statistics-and-numerical-data (sn). PSYCHOSOCIAL-DEPRIVATION.
MN ADULT. FEMALE. HUMAN. LENGTH-OF-STAY:
statistics-and-numerical-data (sn).LONDON: epidemiology (ep).
MALE. MENTAL-DISORDERS: etiology (et). MORBIDITY.
RETROSPECTIVE-STUDIES.
SB Priority Journals (M).
YR 1992.
IS 0143-005X. I1P.

CP ENGLAND (Z1.542.363.300).
IM 9211.
ND ENTRY DATE: 920909.

48

AN 92352428. 92000.
AU Burvill-P-W.
IN Department of Psychiatry and Behavioural Science, University of Western Australia, Nedlands.
TI Looking beyond the 1:10,000 ratio of psychiatrists to population.
SO Aust-N-Z-J-Psychiatry. 1992 Jun. 26(2). P 265-9.
JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The frequently quoted ratio of 1:10,000 psychiatrists to population originated in Canada in 1962 and was later adopted as the minimum by the American Psychiatric Association. Since then both Canada and the United States have found this ratio to be inadequate. Canada has since advocated an optimal target ratio of 1:6,500, but recommended a more attainable pragmatic ratio of 1:8,000 for the foreseeable future. The Royal Australian and New Zealand College of Psychiatrists' recently recommended range of 1:7,500 to 1:10,000 is applauded. Reasons are given why a reasonable upper limit to the ratio of psychiatrists to population is desirable. Author-abstract. 18 Refs.
MJ CROSS-CULTURAL-COMPARISON. PSYCHIATRY: manpower (ma).
MN AUSTRALIA. CANADA. COMPARATIVE-STUDY. GREAT-BRITAIN. HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0004-8674. 9I6.
CP AUSTRALIA (Z1.338).
IM 9211.
ND ENTRY DATE: 920903.

49

AN 92352419. 92000.
AU Yellowlees-P-M. Kaushik-A-V.
IN Broken Hill Base Hospital and Health Services, New South Wales.
TI The Broken Hill Psychopathology Project.
SO Aust-N-Z-J-Psychiatry. 1992 Jun. 26(2). P 197-207.
JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The main objective of this study was to describe the psychiatric disorders seen in patients presenting for treatment in rural New South Wales. The patients were seen primarily in the community, in both public and private practice, but also in the local base hospital and prison. Seven hundred and seven patients were consecutively

examined during the study period. The results of this study were compared with a previous Australia-wide study to identify specific disorders that were more prevalent in rural areas. Alcohol abuse and dependence stood out as being much more prevalent. Life problems such as domestic violence, sexual assault, and incest occurred commonly in women referred for psychiatric assessment. More than ten percent of the study patients were children aged under 17, who had similar prevalence rates of the various psychiatric disorders to a national comparison. It is concluded that alcohol abuse is very common in rural New South Wales, particularly in men, although there are also high rates in women, and this is probably related, in part at least, to the high rates of domestic violence, sexual assault and incest. It appears probable that there is a cycle of alcohol abuse in men leading to domestic violence and sexual abuse in women and children. This may contribute to the latter becoming anxious and depressed. The rates of the major functional psychiatric disorders were similar to those seen nationally. There is a great need for the maldistribution of psychiatrists between metropolitan and rural areas to be addressed. Author-abstract.

MJ ABORIGINES: statistics-and-numerical-data (sn).
MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: epidemiology (ep).
RURAL-HEALTH.
MN ABORIGINES: psychology (px). ADOLESCENCE. ADULT. AGED.
AGED-80-AND-OVER. ALCOHOLISM: epidemiology (ep), psychology (px).
CHILD. CHILD-PRESCHOOL. CROSS-SECTIONAL-STUDIES. FEMALE.
HOSPITALIZATION: statistics-and-numerical-data (sn). HUMAN.
INCIDENCE. LIFE-CHANGE-EVENTS. MALE. MENTAL-DISORDERS: diagnosis
(di), psychology (px). MIDDLE-AGE. NEW-SOUTH-WALES: epidemiology
(ep). SEX-OFFENSES: psychology (px), statistics-and-numerical-data
(sn). STREET-DRUGS. SUBSTANCE-ABUSE: epidemiology (ep), psychology
(px). SUICIDE-ATTEMPTED: psychology (px),
statistics-and-numerical-data (sn). SUPPORT-NON-U-S-GOVT. VIOLENCE.
RN 0 -- Street-Drugs.
SB Priority Journals (M).
YR 1992.
IS 0004-8674. 9I6.
CP AUSTRALIA (Z1.338).
IM 9211.
ND ENTRY DATE: 920903.
CLASS UPDATE: 92.

50

AN 92352418. 92000.
AU Yellowlees-P.
IN Broken Hill Base Hospital, NSW.
TI Bush psychiatric services.
SO Aust-N-Z-J-Psychiatry. 1992 Jun. 26(2). P 191-6.
JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB This is a description of the psychiatric services at present provided to the Far West Region of New South Wales. On account of the isolation of the region, and noting that the area probably has a higher than normal rate of psychiatric and psycho-social morbidity, there are special problems involved in the provision of comprehensive treatment services. I am the only resident psychiatrist within the region, and work as both a Visiting Medical Officer to the Broken Hill Base Hospital, to Wilcannia Hospital, and to the Prison Medical Service, as well as half time in private practice. The Mental Health Services to the area are at present being considerably expanded, and in this paper their structure and function will be described, and the special problems of providing a comprehensive service to an isolated area of the bush will be discussed. The inequity of service allocation to the region will be highlighted. It is noted that the region's total share of the financial mental health cake has dropped by about 40% in the last ten years as a result of the setting up of local community services and dramatically reduced in-patient hospitalisation costs in Sydney and Adelaide. Author-abstract.

MJ ABORIGINES: statistics-and-numerical-data (sn).
 MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: epidemiology (ep).
 PSYCHIATRY: manpower (ma). RURAL-HEALTH:
 statistics-and-numerical-data (sn).

MN ABORIGINES: psychology (px). COMMUNITY-MENTAL-HEALTH-SERVICES:
 economics (ec), manpower (ma).COST-BENEFIT-ANALYSIS.
 CRISIS-INTERVENTION. CROSS-SECTIONAL-STUDIES. HUMAN. INCIDENCE.
 NEW-SOUTH-WALES: epidemiology (ep). PATIENT-CARE-TEAM.

SB Priority Journals (M).

YR 1992.

IS 0004-8674. 9I6.

CP AUSTRALIA (Z1.338).

IM 9211.

ND ENTRY DATE: 920903.

51

AN 92351165. 92000.

AU Coppo-P. Pisani-L. Keita-A.

IN Traditional Medicine Programme, Centro Sperimentale Educazione Sanitaria, Perugia, Italy.

TI Perceived morbidity and health behaviour in a Dogon community.

SO Soc-Sci-Med. 1992 Jun. 34(11). P 1227-35.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The episodes of morbidity over a 6 month period were recorded at 179 households comprising 1715 people living in the district of Bandiagara (Mali). This population was subdivided into groups according to their distances from the nearest district health centre and educational services, their scholarization, socio-economic and hygiene levels. The subjects interviewed were asked to report illnesses using their vernacular names, the type of therapy selected,

the decision process, the time-lapse between onset and remedial action, the treatment undergone and its effect. Subsequent analysis of the data recorded indicates that the frequency of morbidity episodes is inversely proportionate to the household's level of hygiene. It also appears that factors such as the household's hygienic, socio-economic and educational levels along with the type of illness and its duration, are more decisive when resorting (or not resorting) to treatment than is the proximity factor. This seems particularly true in the case of traditional medicine, chosen even where cosmopolitan resources are available and by people with a relatively high socio-economic, hygienic and educational level. In the specific situation under study this paper indicates those areas for further study with a view to improving public health education. Author-abstract.

MJ COMMUNITY-HEALTH-CENTERS: utilization (ut). HEALTH-BEHAVIOR: ethnology (eh). MORBIDITY. PATIENT-ACCEPTANCE-OF-HEALTH-CARE: ethnology (eh).
MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. DECISION-MAKING. EDUCATIONAL-STATUS. FEMALE. HEALTH-SERVICES-RESEARCH. HUMAN. HYGIENE. INFANT. MALE. MALI. *MEDICALLY-UNDERSERVED-AREA.* MEDICINE-TRADITIONAL. MIDDLE-AGE. SELF-CARE. SOCIOECONOMIC-FACTORS.
SB Priority Journals (M).
YR 1992.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 9211.
ND ENTRY DATE: 920901.

52

AN 92321946. 92000.
AU Strasser-R-P.
IN Moe Medical Centre, Victoria.
TI Attitudes of Victorian rural GPs to country practice and training.
SO Aust-Fam-Physician. 1992 Jun. 21(6). P 808-12.
JT AUSTRALIAN FAMILY PHYSICIAN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article reports findings from a study undertaken in early 1991 about attitudes of rural general practitioners in Victoria to country practice and training. A questionnaire was sent to all rural general practitioners and two random samples of metropolitan GPs: one group in suburban practice and another group in fringe metropolitan areas. A 75% response rate was achieved providing information representative of most general practitioners in Victoria. Study findings cover aspects of rural GPs' personal background including training; practice description including continuing education; reasons for choosing country practice; reasons for staying in country practice; reasons for leaving country practice; and suggestions for improving recruitment, training and retention of rural GPs. Author-abstract.

MJ ATTITUDE-OF-HEALTH-PERSONNEL. FAMILY-PRACTICE.
MEDICALLY-UNDERSERVED-AREA.
MN FAMILY-PRACTICE: education (ed), manpower (ma). HUMAN.
RURAL-HEALTH. SUPPORT-NON-U-S-GOVT. VICTORIA.
YR 1992.
IS 0300-8495. 9EC.
CP AUSTRALIA (Z1.338).
IM 9210.
ND ENTRY DATE: 920806.

53

AN 92321115. 92000.
AU Gardner-K-D Jr.
TI Looking upon the water. It's our Gummit and we're stuck with it]
`editorial:.
SO Am-J-Kidney-Dis. 1992 Jul. 20(1). P 78-9.
JT AMERICAN JOURNAL OF KIDNEY DISEASES.
PT EDITORIAL (EDI).
LG English (EN).
MJ INTERNSHIP-AND-RESIDENCY: economics (ec).
MEDICALLY-UNDERSERVED-AREA. TRAINING-SUPPORT.
MN HUMAN. SALARIES-AND-FRINGE-BENEFITS. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0272-6386. 3H5.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920806.

54

AN 92312115. 92000.
AU Sebert-S-L.
IN West Virginia University School of Medicine, Morgantown.
TI Family physicians' perceptions of health manpower needs in West
Virginia.
SO W-V-Med-J. 1991 Nov. 87(11). P 506-9.
JT WEST VIRGINIA MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB West Virginia family physicians feel that they are able to assess the
health care needs of their communities. There is a need for more
physicians in all of the major specialties in West Virginia, but the
largest numbers of physicians are needed in family practice and
obstetrics. More registered nurses and licensed practical nurses are
needed than any other health care professionals. Twenty-five percent
of the respondents are actively recruiting associates, and 48 percent
have seriously considered leaving, or are leaving West Virginia. The
most commonly cited reasons for leaving are inadequate reimbursement,
the state's economy, SB-576, lack of tort reform, and state
government in general. The greatest advantage given to practicing in

the state are its people, the quality of life, and home and family. In addition, the greatest problems are reimbursement, state government, the malpractice climate and the state economy. The survey shows that state government needs to show a good faith effort to enact tort reform to improve relations with physicians. The threat of losing more physicians is real and must be addressed. Improving the climate for the practice of medicine is a viable solution to West Virginia's manpower problems. There is also a need to continue all present health care professional training programs. More emphasis should be placed on recruitment and retention of nursing students. There is expressed support for nurse midwives, nurse practitioners, and physicians' assistants all working under the supervision of physicians. The finding that home and family are frequently listed as advantages to practicing here indicates recruitment and nurturing of students from *underserved* areas should be increased.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

MJ ALLIED-HEALTH-PERSONNEL: supply-and-distribution (sd).
ATTITUDE-OF-HEALTH-PERSONNEL. PHYSICIANS: supply-and-distribution (sd). PHYSICIANS-FAMILY. SPECIALTIES-MEDICAL: manpower (ma).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* QUESTIONNAIRES.
WEST-VIRGINIA.
YR 1991.
IS 0043-3284. XMR.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920728.

55

AN 92297396. 92000.
AU Mahoney-D-F.
TI A comparative analysis of nurse practitioners with and without prescriptive authority.
SO J-Am-Acad-Nurse-Pract. 1992 Apr-Jun. 4(2). P 71-6.
JT JOURNAL OF THE AMERICAN ACADEMY OF NURSE PRACTITIONERS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article reports findings from a national random sample of nurse practitioners (NPs) who were actively practicing in adult primary care settings during 1986. An analysis of their demographic and practice characteristics revealed a statistically significant association between certain characteristics and the NPs' prescribing status. Nurse practitioners with prescriptive authority had more years of experience and were more likely to practice in rural or suburban areas and work in nongroup settings than NPs without prescriptive authority. These findings suggest that giving NPs' prescriptive authority may be an enabling factor that supports NP practice in *medically* *underserved* locations. Author-abstract.
MJ NURSE-PRACTITIONERS: standards (st). PRESCRIPTIONS-DRUG. PROFESSIONAL-PRACTICE: standards (st).
MN EMPLOYMENT: statistics-and-numerical-data (sn). FEMALE. HUMAN.

MALE. NORTHWESTERN-UNITED-STATES. NURSE-PRACTITIONERS: economics (ec), statistics-and-numerical-data (sn). PROFESSIONAL-PRACTICE: economics (ec), statistics-and-numerical-data (sn). QUESTIONNAIRES. REFERRAL-AND-CONSULTATION: statistics-and-numerical-data (sn). SUPPORT-NON-U-S-GOVT.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1041-2972. ASE.

CP UNITED-STATES (Z1.107.567.875).

IM 9209.

ND ENTRY DATE: 920723.

56

AN 92277133. 92000.

AU Duffy-F-D. Lewis-C-S Jr. Lapolla-M.

IN Department of Internal Medicine, OU College of Medicine-Tulsa
74129-1077.

TI Physician census and geographic distribution in Oklahoma from 1984 to 1990.

SO J-Okla-State-Med-Assoc. 1992 Apr. 85(4). P 171-9.

JT JOURNAL - OKLAHOMA STATE MEDICAL ASSOCIATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution (sd). RURAL-HEALTH: trends (td). SPECIALTIES-MEDICAL: manpower (ma).

MN HUMAN. OKLAHOMA.

YR 1992.

IS 0030-1876. JH3.

CP UNITED-STATES (Z1.107.567.875).

IM 9209.

ND ENTRY DATE: 920701.

57

AN 92270166. 92000.

AU Barnett-J-R.

IN University of Canterbury, Christchurch.

TI How long do general practitioners remain in any one location?:
Regional and urban size variations in the turnover of foreign and New Zealand doctors in general practice, 1976-90.

SO N-Z-Med-J. 1992 May 13. 105(933). P 169-71.

JT NEW ZEALAND MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Studies of doctor location have, for the most part, focused on geographic variations in access to care, rather than the continuity of care provided at different locations. This paper examines regional and city size variations in turnover rates in general practice and shows that they are highest in the southern and most

rural regions of New Zealand. However, an unexpected finding was that no significant differences occurred by doctor origin. While more foreign than New Zealand medical graduates have located in rural New Zealand, similar turnover rates between the two groups indicates that their presence has not resulted in any improvement in the continuity of care provided. Author-abstract.

MJ PHYSICIANS-FAMILY: statistics-and-numerical-data (sn).
PROFESSIONAL-PRACTICE-LOCATION: statistics-and-numerical-data (sn).
MN COHORT-STUDIES. CONTINUITY-OF-PATIENT-CARE.
FOREIGN-MEDICAL-GRADUATES: supply-and-distribution (sd),
statistics-and-numerical-data (sn). HUMAN.
MEDICALLY-UNDERSERVED-AREA. NEW-ZEALAND: epidemiology (ep).
PERSONNEL-TURNOVER: statistics-and-numerical-data (sn).
PHYSICIANS-FAMILY: supply-and-distribution (sd). PROBABILITY.
RURAL-POPULATION. URBAN-POPULATION.
SB Priority Journals (M).
YR 1992.
IS 0028-8446. OBO.
CP NEW-ZEALAND (Z1.730).
IM 9208.
ND ENTRY DATE: 920622.

58

AN 92262334. 92000.
AU Durkin-M-S. Davidson-L-L. Hasan-Z-M. Hasan-Z. Hauser-W-A.
Khan-N. Paul-T-J. Shrout-P-E. Thorburn-M-J. Zaman-S.
IN Gertrude H. Sergievsky Center, Columbia University, New York, New
York 10032.
TI Estimates of the prevalence of childhood seizure disorders in
communities where professional resources are scarce: results from
Bangladesh, Jamaica and Pakistan.
SO Paediatr-Perinat-Epidemiol. 1992 Apr. 6(2). P 166-80.
JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Although numerous estimates of the prevalence of seizure disorders in
populations in the less developed world have now been published,
these estimates are difficult to interpret due to lack of
comparability of study methods and criteria for case definition. The
results reported in this paper are from a large, collaborative study
of disabilities in 2- to 9-year-old children in which standard
research procedures and case definitions were used in three diverse
populations (located in Bangladesh, Jamaica and Pakistan). A
two-phase study design (screening followed by professional
evaluations) was used in this study allowing for the professional
evaluation to serve as the criterion in the estimation of prevalence,
even for rare disorders. As a result, the prevalence estimates
reported here have a high degree of comparability across populations
and exhibit unusually strong validity for population surveys.
Febrile seizures were the most common type of seizure history in all

three populations, with point estimates of lifetime prevalence ranging from 10.9 to 62.8 per 1000. The lifetime prevalence rates of epilepsy (recurrent unprovoked seizures) ranged from 5.8 to 15.5 per 1000. Lifetime prevalence rates of neonatal, all provoked and all unprovoked seizures, as well as estimates of the prevalence of active epilepsy, are also reported. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* SEIZURES: epidemiology (ep).
MN AGE-FACTORS. BANGLADESH: epidemiology (ep). CASE-CONTROL-STUDIES.
CHILD. CONFIDENCE-INTERVALS. EPILEPSY: epidemiology (ep). HUMAN.
JAMAICA: epidemiology (ep). PAKISTAN: epidemiology (ep).
PREVALENCE. RISK-FACTORS. RURAL-POPULATION:
statistics-and-numerical-data (sn). SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. URBAN-POPULATION:
statistics-and-numerical-data (sn).
SB Priority Journals (M).
YR 1992.
IS 0269-5022. PA1.
CP ENGLAND (Z1.542.363.300).
IM 9208.
ND ENTRY DATE: 920618.
NO R29NS2797101. GRANT: NS. INSTITUTE: NINDS. R29NS2797102. GRANT:
NS. INSTITUTE: NINDS.

59

AN 92261503. 92000.
AU Zismer-D-K. Fansler-D-D.
TI Rural health care delivery. Survival may require an integrated
model.
SO Minn-Med. 1992 Apr. 75(4). P 43-6.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DELIVERY-OF-HEALTH-CARE: trends (td). *MEDICALLY-UNDERSERVED-AREA.*
RURAL-HEALTH: trends (td).
MN HUMAN. MINNESOTA.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920618.

60

AN 92250245. 92000.
AU Bachrach-L-L.
IN Maryland Psychiatric Research Center, University of Maryland School
of Medicine.
TI The urban environment and mental health.
SO Int-J-Soc-Psychiatry. 1992 Spring. 38(1). P 5-15.
JT INTERNATIONAL JOURNAL OF SOCIAL PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).

LG English (EN).
MJ CROSS-CULTURAL-COMPARISON. MENTAL-HEALTH-SERVICES: trends (td).
SOCIAL-ENVIRONMENT. URBAN-HEALTH: trends (td).
MN COMPARATIVE-STUDY. EUROPE. FEMALE.
HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HOMELESS-PERSONS:
statistics-and-numerical-data (sn). HUMAN. MALE.
MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: epidemiology (ep),
rehabilitation (rh). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0020-7640. GT5.
CP ENGLAND (Z1.542.363.300).
IM 9208.
ND ENTRY DATE: 920609.

61

AN 92249828. 92000.
AU Fredriksen-K-I.
IN Department of Drug and Alcohol Programs, State of California.
TI North of Market: Older Women's Alcohol Outreach Program.
SO Gerontologist. 1992 Apr. 32(2). P 270-2.
JT GERONTOLOGIST.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The North of Market Older Women's Alcohol Program is an innovative
outreach program designed to assist isolated and impoverished
alcohol-dependent older women. The program utilized service
components focused on "building up" the clientele and developing
support networks rather than the traditional approach of first
"breaking down" an alcoholic's defense barriers. Sobriety (complete
abstinence) was attained by 60% of the women for a minimum of 3
months (not necessarily consecutive). Author-abstract.
MJ ALCOHOLISM: therapy (th). PROGRAM-DEVELOPMENT.
WOMENS-HEALTH-SERVICES: organization-and-administration (og).
MN AGED. FEMALE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MIDDLE-AGE.
PROGRAM-EVALUATION. SAN-FRANCISCO.
YR 1992.
IS 0016-9013. FP5.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920610.

62

AN 92249691. 92000.
AU Younge-R. Ellis-N.
IN Family Health Center, Montefiore Medical Center, Bronx, NY.
TI Family medicine and prenatal care in an urban *medically* *underserved*
community.
SO Fam-Med. 1992 Mar-Apr. 24(3). P 230-2.
JT FAMILY MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Women in communities with a high rate of adverse birth outcomes benefit from early prenatal care. The Montefiore Medical Center Department of Family Medicine has developed a Low Birth-weight Prevention Program at a community health center, which encourages early prenatal care, surveillance of all pregnancies for existing or emergent risk factors, and case management of high-risk pregnancies by family medicine faculty, residents, and nurse practitioners. Author-abstract.

MJ FAMILY-PRACTICE: organization-and-administration (og).

MEDICALLY-UNDERSERVED-AREA. OUTCOME-ASSESSMENT-HEALTH-CARE.

PRENATAL-CARE: organization-and-administration (og).

PREVENTIVE-MEDICINE: organization-and-administration (og).

MN FEMALE. HUMAN. NEW-YORK. PREGNANCY. URBAN-HEALTH.

SB Priority Journals (M).

YR 1992.

IS 0742-3225. FAL.

CP UNITED-STATES (Z1.107.567.875).

IM 9208.

ND ENTRY DATE: 920610.

63

AN 92247066. 92000.

AU Sarachan-Deily-A-B.

IN A.B. Deily Consulting Associates, Chatham Center, New York.

TI Beyond the one-room schoolhouse.

SO ASHA. 1992 Apr. 34(4). P 34-7, 42.

JT ASHA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Technology is only one solution to a complex problem.

Speech-language pathologists need to evaluate and apply existing service delivery systems carefully. We also need to develop innovative and creative alternatives. Rather than continuing to fit our clients into the existing systems, we need to promote systems that more adequately meet their needs, regardless of barriers. Given the diversity of rural America, no single model or strategy is enough. A model that may work in one remote/rural island or desert area may not work in a rural farm community. At times a combination model may be the most efficient and effective means for serving our clients. The problems in service delivery to the *underserved* populations in remote/rural areas can be solved. The solutions require flexibility and adaptability of traditional, alternate, and innovative service delivery models, depending on the unique characteristics of the community. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH.

SPEECH-LANGUAGE-PATHOLOGY: organization-and-administration

(og).THERAPY-COMPUTER-ASSISTED: organization-and-administration

(og).

MN HUMAN. MICROCOMPUTERS. PATIENT-CARE-TEAM:
organization-and-administration (og). SPEECH-LANGUAGE-PATHOLOGY:
standards (st). THERAPY-COMPUTER-ASSISTED: standards (st).
YR 1992.
IS 0001-2475. 92G.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920604.

64

AN 92237544. 92000.
TI Respiratory infections among the economically and *medically*
disadvantaged.
SO Semin-Respir-Infect. 1991 Dec. 6(4). P 183-290.
JT SEMINARS IN RESPIRATORY INFECTIONS.
PT OVERALL (OVR).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* POVERTY-AREAS.
RESPIRATORY-TRACT-INFECTIONS.
MN HUMAN.
SB Priority Journals (M).
YR 1991.
IS 0882-0546. SEI.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920527.

65

AN 92228328. 92000.
AU McManus-J. Monajem-S. Dincer-E.
IN Department of Pediatric Dentistry, Columbia University School of
Dental and Oral Surgery.
TI Mobile mission.
SO N-Y-State-Dent-J. 1992 Feb. 58(2). P 51-2.
JT NEW YORK STATE DENTAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The "Big Blue" van of The Children's Aid Society brings much needed
health services to homeless and *underserved* children of New York
City. Author-abstract.
MJ CHILD-HEALTH-SERVICES. DENTAL-HEALTH-SERVICES. MEDICAL-INDIGENCY.
MOBILE-HEALTH-UNITS.
MN CHILD. EQUIPMENT-DESIGN. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
NEW-YORK.
SB Dental Journals (D).
YR 1992.
IS 0028-7571. OB6.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.

AN 92227028. 92000.
 AU Rudolph-M-J. Chikte-U-M. Lewis-H-A.
 IN Department of Community Dentistry, University of the Witwatersrand,
 Braamfontein, South Africa.
 TI A mobile dental system in southern Africa.
 SO J-Public-Health-Dent. 1992 Winter. 52(2). P 59-63.
 JT JOURNAL OF PUBLIC HEALTH DENTISTRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Recent studies indicate a great need for dental treatment and
 preventive services in dentally *underserved* communities in southern
 Africa. Geographic inaccessibility, limited financial resources, and
 a maldistribution of dental personnel are the main barriers to oral
 health care. This project describes the evolution and utilization of
 a unique, purpose-built, mobile dental unit (MDU). From a compact 2
 x 2.5 meter box trailer, an enclosed area of 8 x 9 meters is formed
 by deploying a cover system housed on top of the trailer. Once
 deployed, the unit becomes four fully equipped dental operatories and
 a combined waiting and educational area, with all-weather protection.
 Comprehensive care is provided by dental auxiliaries. The underlying
 philosophy of the service is based on the primary oral health care
 approach. To date, the MDU has visited a wide variety of rural and
 urban communities where several thousand patients have been examined
 and treated. Assessment of the MDU indicates that it is an effective
 and viable alternative oral health delivery system.
 Author-abstract.
 MJ DENTAL-CARE. MOBILE-HEALTH-UNITS.
 MN ADOLESCENCE. ADULT. CHILD. DENTAL-CARE: instrumentation (is),
 manpower (ma), methods (mt). DENTAL-EQUIPMENT. DENTAL-STAFF.
 HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
 MOBILE-HEALTH-UNITS: manpower (ma). PREVENTIVE-DENTISTRY.
 SOUTH-AFRICA. SUPPORT-NON-U-S-GOVT.
 SB Priority Journals (M). Dental Journals (D).
 YR 1992.
 IS 0022-4006. JV3.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9207.
 ND ENTRY DATE: 920515.

AN 92224040. 92000.
 AU Jourdain-A.
 IN Departement Methodes, Sante et Population, Ecole Nationale de la
 Sante Publique, Rennes.
 TI `How to reduce health inequalities between regions?`.
 TT Comment "rawper" les inegalites de sante entre regions.
 SO Cah-Sociol-Demogr-Med. 1991 Oct-Dec. 31(4). P 309-44.
 JT CAHIERS DE SOCIOLOGIE ET DE DEMOGRAPHIE MEDICALES.

PT JOURNAL-ARTICLE (ART).

LG French (FR).

AB The article addresses the question how public decision makers can manage, through resources allocations, to reduce health inequalities between regions. After a description of the British experience, the author suggests a simplified method for determining the gap between the effective allocation of resources and that which would be optimal. Application to France is proposed. Author-abstract.

MJ HEALTH-PLANNING-GUIDELINES. HEALTH-SERVICES-ACCESSIBILITY.

MEDICALLY-UNDERSERVED-AREA.

MN ENGLAND. ENGLISH-ABSTRACT. FRANCE. HEALTH-PLANNING.

HEALTH-RESOURCES. HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN.

SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1991.

IS 0007-9995. CEH.

CP FRANCE (Z1.542.286).

IM 9207.

ND ENTRY DATE: 920521.

68

AN 92215035. 92000.

AU Glatt-A-E. Risbrook-A-T. Jenna-R-W.

IN Division of Infectious Diseases, Nassau County Medical Center, East Meadow, NY 11554.

TI Successful implementation of a long-term care unit for patients with acquired immunodeficiency syndrome in an *underserved* suburban area with a high incidence of human immunodeficiency virus.

SO Arch-Intern-Med. 1992 Apr. 152(4). P 823-5.

JT ARCHIVES OF INTERNAL MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB BACKGROUND--Long Island (NY) has the highest incidence of human immunodeficiency virus infection of any suburban area in the United States. Until 1988, however, no patient with the acquired immunodeficiency virus had been admitted to any one of the 61 Long Island nursing home facilities. METHODS--A 10-bed acquired immunodeficiency syndrome unit was established in a county-owned skilled nursing facility. Before implementation of the unit, all staff members underwent extensive training and education, and standard precautions against infection were emphasized. Meetings were held with current residents of the nursing home and their families to address their fears and concerns. The unit was staffed entirely on a volunteer basis. RESULTS--The unit was opened in October 1990, and 16 patients have been admitted since that time. The geriatric and human immunodeficiency virus-positive patients interact well, and no complaints have been received from the geriatric patients or their families. No known breaches in infection control policies have occurred. There have been no problems in staff recruitment. CONCLUSIONS--Long-term care for patients with human

immunodeficiency virus in an existing nursing home facility is an achievable goal. Author-abstract.

- MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: nursing (nu).
SKILLED-NURSING-FACILITIES: organization-and-administration (og).
SUBURBAN-POPULATION.
- MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: epidemiology (ep). HUMAN.
INCIDENCE. LONG-TERM-CARE: organization-and-administration (og).
MEDICALLY-UNDERSERVED-AREA. NEW-YORK-CITY: epidemiology (ep).
- SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
- YR 1992.
- IS 0003-9926. 7FS.
- CP UNITED-STATES (Z1.107.567.875).
- IM 9207.
- ND ENTRY DATE: 920507.

69

- AN 92213509. 92000.
- AU Matsaganis-M.
- IN Welfare State Programme, London School of Economics, U.K.
- TI Maternal mobility and infant mortality in Greece: a regional analysis.
- SO Soc-Sci-Med. 1992 Feb. 34(3). P 317-23.
- JT SOCIAL SCIENCE AND MEDICINE.
- PT JOURNAL-ARTICLE (ART).
- LG English (EN).
- AB The paper is an attempt to analyse the pattern of cross-boundary flows to maternity clinics. The question is whether the expectations of expectant mothers who often travel long distances in order to give birth can be (i) explained by the lack of adequate levels of care in the out-flow areas, and (ii) justified in terms of birth outcomes. Infant mortality is used as a measure of the effectiveness of medical care. The results show that maternal mobility is indeed the result of inadequate provision of services. However, regional variations in infant mortality do not relate to availability of medical care. Mortality rates among infants born in the areas with net outflow of births are lower than the national average, while better-equipped areas experience higher infant mortality rates. Moreover, expectant mothers that move to Athens and Salonica (the main receiving areas) from the net outflow areas seem to face worst survival chances for their babies than those who stay. The nature of data does not permit control for risk factors and obstetric histories. However, it is argued that the sheer scale of maternal mobility and infant mortality differentials revealed in the paper imply that the possibility that moving itself significantly increases the risk of infant mortality should be looked at more carefully. The paper recommends the introduction of health policy initiatives in provincial Greece, aimed at increasing availability, improving standards and restoring public confidence to locally available medical services. The standards of care in maternity clinics should also be subject to audit mechanisms.

It is finally necessary that maternal mobility is confined to cases for which good medical reasons exist. Author-abstract.

MJ HEALTH-SERVICES-ACCESSIBILITY: standards (st). INFANT-MORTALITY. MATERNAL-HEALTH-SERVICES: standards (st).
MEDICALLY-UNDERSERVED-AREA. TRAVEL.
MN FEMALE. GREECE. HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn). HEALTH-SERVICES-RESEARCH. HUMAN. INFANT-NEWBORN. MATERNAL-HEALTH-SERVICES: statistics-and-numerical-data (sn). PREGNANCY. RESIDENCE-CHARACTERISTICS. RURAL-POPULATION. SOCIOECONOMIC-FACTORS. URBAN-POPULATION.
SB Priority Journals (M).
YR 1992.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 9207.
ND ENTRY DATE: 920501.

70

AN 92212684. 92000.
AU Redlener-I. Burke-K.
TI Children's Health Project update `letter:.
SO Pediatrics. 1992 Apr. 89(4 Pt 2). P 801.
JT PEDIATRICS.
PT LETTER (LET).
LG English (EN).
MJ CHILD-HEALTH-SERVICES: organization-and-administration (og).
MN CHILD. HOMELESS-PERSONS. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NEW-YORK-CITY.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0031-4005. OXV.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920505.

71

AN 92211427. 92000.
AU Leuthard-J-L. Davison-M. Lorenz-D.
IN Oklahoma State Department of Health, Oklahoma City 73117-1299.
TI Obstetrical practice survey report. Healthy Futures Program, May 2, 1991.
SO J-Okla-State-Med-Assoc. 1991 Dec. 84(12). P 607-11.
JT JOURNAL - OKLAHOMA STATE MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Oklahoma physicians in three specialty areas (ob/gyn, family practice, and general practice) were surveyed in regard to their practice of obstetrics. The 611 physicians who responded included a representative sample in regard to county of practice, rural vs

urban, age, degree (DO & MD), specialty, and type of practice. Respondents accounted for 51% of the total 1989 births in Oklahoma during calendar year 1989. The vast majority (greater than 90%) of respondents report that they normally provide delivery services and prenatal care in combination. Cesarean sections are performed by almost all ob/gyns (97.6%), more than half of the family practitioners (56.5%), and a very few general practitioners (18.9%). Half of all physicians responding have made changes in their obstetric practice in the last 3 years. The most common changes are: reducing care of *medically* high risk, uninsured, and/or Medicaid patients. The most important reasons for these changes are: fear of obstetric malpractice suits, inconvenience of obstetrics and excessive professional liability insurance premiums. Specific reasons for reducing care to *medically* high risk patients were reported to be: increased medical legal liability, belief that high risk patients should be cared for by specialists, and lack of Medicaid reimbursement for diagnostic services. Almost 90% of the physicians responding to the survey are required to carry a minimum amount of professional liability insurance by the hospital where they practice with the most frequently stated amount being \$1,000,000. Current average "global fees" reported by the respondents were \$1,202 for a spontaneous vaginal delivery and \$1,543 for a cesarean delivery.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

MJ INFANT-MORTALITY. *MEDICALLY-UNDERSERVED-AREA.* OBSTETRICS: manpower (ma).

MN ADULT. AGED. ATTITUDE-OF-HEALTH-PERSONNEL. FEMALE. HUMAN. INFANT-NEWBORN. INSURANCE-LIABILITY. MALE. MIDDLE-AGE. OKLAHOMA. SUPPORT-NON-U-S-GOVT.

YR 1991.

IS 0030-1876. JH3.

CP UNITED-STATES (Z1.107.567.875).

IM 9207.

ND ENTRY DATE: 920504.

72

AN 92196004. 92000.

AU Cross-S-J. OConor-R-A. Milne-A-H. Jennings-K-P.

TI Ventricular fibrillation in the Antarctic: an unexpected event
`letter:.

SO Postgrad-Med-J. 1991 Dec. 67(794). P 1084.

JT POSTGRADUATE MEDICAL JOURNAL.

PT LETTER (LET).

LG English (EN).

MJ *MEDICALLY-UNDERSERVED-AREA.* MYOCARDIAL-INFARCTION: complications (co). VENTRICULAR-FIBRILLATION: etiology (et).

MN ADULT. ANTARCTIC-REGIONS. CASE-REPORT. HUMAN. MALE.

SB Priority Journals (M).

YR 1991.

IS 0032-5473. PFX.

CP ENGLAND (Z1.542.363.300).

IM 9206.
ND ENTRY DATE: 920422.

73

AN 92188255. 92000.
AU Zhadenov-I-I. Iushina-B-S. Mitrofanov-V-A.
TI `Organization of specialized health services for patients with joint diseases at the pre-hospital stage in the RSFSR:.
TT Organizatsiia spetsializirovannoi pomoshchi bol'nyim s zabolevaniiami sustavov na dogospital'nom etape v Rossiiskoi Federatsii.
SO Sov-Med. 1991. (9). P 38-41.
JT SOVETSKAIA MEDITSINA.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
MJ ARTHRITIS-RHEUMATOID: therapy (th). OSTEOARTHRITIS: therapy (th).
OUTPATIENT-CLINICS-HOSPITAL: organization-and-administration (og).
RHEUMATOLOGY: standards (st). SPONDYLITIS-ANKYLOSING: therapy (th).
MN AMBULATORY-CARE: organization-and-administration (og), standards (st). ARTHRITIS-RHEUMATOID: diagnosis (di). COMPARATIVE-STUDY.
HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN.
MEDICALLY-UNDERSERVED-AREA. OSTEOARTHRITIS: diagnosis (di).
OUTPATIENT-CLINICS-HOSPITAL: standards (st). RUSSIA.
SPONDYLITIS-ANKYLOSING: diagnosis (di).
YR 1991.
IS 0038-5077. UW7.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 9206.
ND ENTRY DATE: 920413.
CLASS UPDATE: 92.

74

AN 92184239. 92000.
AU Santos-A-B. Mallard-D-J. Reicke-C-L 3d.
TI The high-tech solution to the rural service shortage `editorial:.
SO Hosp-Community-Psychiatry. 1992 Jan. 43(1). P 5.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH. TECHNOLOGY-HIGH-COST.
TELECOMMUNICATIONS: instrumentation (is). VIDEO-RECORDING:
instrumentation (is).
MN EQUIPMENT-DESIGN. HUMAN.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920416.

75

AN 92184234. 92000.
 AU Preston-J. Brown-F-W. Hartley-B.
 IN Baylor College of Medicine, Houston, Texas.
 TI Using telemedicine to improve health care in distant areas.
 SO Hosp-Community-Psychiatry. 1992 Jan. 43(1). P 25-32.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB Many users consider telemedicine a partial solution to problems of delivering health care to remote areas or areas *underserved* by clinicians. Current telemedical technology benefits from recent developments such as the decreased cost and improved quality of the coder-decoder (codec) equipment used in interactive digital video systems and the expansion of fiber-optic cable networks. The authors outline some pioneering telemedicine programs of the 1960s and 1970s and describe two recently activated systems in Texas. One network, serving the western two-fifths of the state, links faculty members from four campuses of Texas Tech University Health Sciences Center with almost 40 rural communities. The other connects the state hospital and three other facilities in Austin with four health care sites in the town of Giddings, 65 miles away. Besides serving patients, the systems provide continuing medical education and support to reduce the isolation of rural health care professionals. Primary goals include evaluation and certification of telemedical training and analysis of the cost feasibility of telemedical services. Author-abstract. 39 Refs.
 MJ DELIVERY-OF-HEALTH-CARE. *MEDICALLY-UNDERSERVED-AREA.*
 TELECOMMUNICATIONS: instrumentation (is). VIDEO-RECORDING: instrumentation (is).
 MN HUMAN. TEXAS.
 SB Priority Journals (M).
 YR 1992.
 IS 0022-1597. GCJ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9206.
 ND ENTRY DATE: 920416.

76

AN 92183058. 92000.
 AU Zavertrnik-J-J. McCoy-C-B. Robinson-D-S. Love-N.
 IN Sylvester Comprehensive Cancer Center, University of Miami School of Medicine, Florida.
 TI Cost-effective management of breast cancer.
 SO Cancer. 1992 Apr 1. 69(7 Suppl). P 1979-84.
 JT CANCER.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The 5-year survival of cancer of the breast in socioeconomically disadvantaged women is much too low because treatment is given for late stage disease. A screening mammography program at primary-care

facilities for *medically* *underserved* women has markedly increased in situ and local stage of disease and decreased distant disease. This has produced an estimated 50% decrease in mortality and a significant decrease in treatment costs. Unacceptable delay from positive mammogram to biopsy and pathologic diagnosis remained, so a one-stop breast center was established to perform breast physical examination, screening mammography, biopsy, and pathologic interpretation at one site on one visit for optimal cost-effectiveness. Author-abstract.

MJ BREAST-NEOPLASMS: prevention-and-control (pc). MASS-SCREENING: economics (ec).
MN COST-BENEFIT-ANALYSIS. DELIVERY-OF-HEALTH-CARE: economics (ec), organization-and-administration(og). FEMALE. FLORIDA. HUMAN. MAMMOGRAPHY: economics (ec). MASS-SCREENING: organization-and-administration (og).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920416.

77

AN 92172526. 92000.
AU Main-J-A. Main-P-G.
TI Quality or inequality in health care? `letter:.
SO Br-J-Gen-Pract. 1991 Sep. 41(350). P 388.
JT BRITISH JOURNAL OF GENERAL PRACTICE.
PT LETTER (LET).
LG English (EN).
MJ FAMILY-PRACTICE: economics (ec). *MEDICALLY-UNDERSERVED-AREA.* QUALITY-OF-HEALTH-CARE: economics (ec). STATE-MEDICINE: economics (ec).
MN GREAT-BRITAIN. HUMAN.
YR 1991.
IS 0960-1643. ARK.
CP ENGLAND (Z1.542.363.300).
IM 9206.
ND ENTRY DATE: 920408.

78

AN 92172128. 92000.
AU Rabinowitz-H-K.
IN Department of Family Medicine, Jefferson Medical College, Thomas Jefferson University, Philadelphia, PA 19107-5099.
TI Sixteen years' experience with a required third-year family medicine clerkship at Jefferson Medical College.
SO Acad-Med. 1992 Mar. 67(3). P 150-6.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Jefferson Medical College has developed a program to successfully meet the goal of teaching ambulatory care to all medical students, by providing each of its 223 third-year students with a required six-week clerkship in family medicine. The structured clerkship takes place at one of seven residency-based family practice centers, is supplemented by a formal curriculum, and is based on the active clinical involvement of caring for patients under full-time family medicine faculty supervision. This clerkship has been in existence for 16 years, and has added over 400,000 student-patient encounters to the clinical education of over 3,500 students. Student evaluations of the clerkship have rated it the highest of the six required core clerkships at Jefferson. In addition, over 16% of Jefferson graduates have entered family medicine residency training programs, a rate higher than that of any other school in the northeastern United States, and significantly higher than the average for all U.S. medical schools (12%). Jefferson's experience suggests that ambulatory care can be taught as a core component of the clinical education of all medical students. To be successful, however, strong institutional support, a structured curriculum, an adequate number of patients, a dedicated faculty, a sufficient number of training sites, an appropriate evaluation process, and significant financial support are all necessary. Author-abstract.

MJ ACADEMIC-MEDICAL-CENTERS: organization-and-administration (og).
CLINICAL-CLERKSHIP: economics (ec). FAMILY-PRACTICE: education (ed).

MN AMBULATORY-CARE. CURRICULUM. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
PHILADELPHIA. SUPPORT-U-S-GOVT-P-H-S.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1992.

IS 1040-2446. ACM.

CP UNITED-STATES (Z1.107.567.875).

IM 9206.

ND ENTRY DATE: 920407.

NO 2D15PE83002. GRANT: PE. INSTITUTE: DMBHP.

79

AN 92168844. 92000.

AU Shafter-V-R.

IN Decatur Memorial Hospital, Cancer Care Institute, IL.

TI Mammography screening for the *medically* *underserved.*

SO Oncol-Nurs-Forum. 1992 Jan-Feb. 19(1). P 94.

JT ONCOLOGY NURSING FORUM.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ BREAST-NEOPLASMS: prevention-and-control (pc). MAMMOGRAPHY.

MASS-SCREENING: organization-and-administration (og).

MEDICALLY-UNDERSERVED-AREA.

MN FEMALE. HUMAN.

SB Priority Journals (M). Nursing Journals (N).

YR 1992.

IS 0190-535X. PAD.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

80

AN 92168491. 92000.
AU Matheson-D-P. Hoskins-R-S.
IN Department of Community Health, Wellington School of Medicine.
TI The general practice contract scheme: was it targeted?
SO N-Z-Med-J. 1992 Feb 12. 105(927). P 35-6.
JT NEW ZEALAND MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB OBJECT: to determine whether the contracted general practices were situated in areas of greatest health need. METHOD: the health and equity index was used to determine the level of health need of the geographical location of the contracted practices. RESULTS: the health and equity index for the urban contracted practices showed a high level of health need. In the rural practices, the census area unit in which the practices were located showed a high level of health need, however when surrounding census area units were considered, they were located in areas of average health need. CONCLUSION: the general practice contract scheme was well targeted. Author-abstract.
MJ FAMILY-PRACTICE: organization-and-administration (og).
MEDICALLY-UNDERSERVED-AREA. PRIMARY-HEALTH-CARE: supply-and-distribution (sd).
MN DELIVERY-OF-HEALTH-CARE. HUMAN. NEW-ZEALAND.
PROFESSIONAL-PRACTICE-LOCATION: statistics-and-numerical-data (sn).
PROGRAM-EVALUATION. RURAL-POPULATION. URBAN-POPULATION.
SB Priority Journals (M).
YR 1992.
IS 0028-8446. OBQ.
CP NEW-ZEALAND (Z1.730).
IM 9206.
ND ENTRY DATE: 920327.

81

AN 92155331. 92000.
AU Henshaw-S-K.
IN Alan Guttmacher Institute.
TI The accessibility of abortion services in the United States.
SO Fam-Plann-Perspect. 1991 Nov-Dec. 23(6). P 246-52, 263.
JT FAMILY PLANNING PERSPECTIVES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Abortion services are provided in hospitals, doctors' offices and various types of clinics, but about two-thirds of procedures are performed in specialized abortion clinics. While this system appears

to work well for most women, some women seeking abortion face obstacles related to distance, cost, harassment and special medical conditions. Nine percent of nonhospital abortion patients must travel more than 100 miles and 18 percent travel 50 to 100 miles for services. The average woman having a first-trimester nonhospital abortion paid \$251 in 1989. Fees were higher in facilities with small abortion caseloads. An abortion at 10 weeks' gestation in a hospital cost an average of \$1,757. Charges for abortions at 16 weeks averaged \$509 in abortion clinics, compared with \$1,539 in hospitals for curettage and \$2,246 for instillation procedures. Some women face other barriers: Only 43 percent of all abortion facilities offer services past 12 weeks, and 27-37 percent of nonhospital facilities say they do not treat patients who test positive for the human immunodeficiency virus (HIV), the virus that causes AIDS. Women who need special services such as an administration of Rh immunoglobulin, general anesthesia or HIV testing usually pay extra for these services. In addition, 85 percent of nonhospital facilities that serve 400 or more abortion patients a year reported some form of antiabortion harassment in 1988, most commonly picketing; there was virtually no change in this proportion between 1985 and 1988. Author-abstract.

MJ ABORTION-LEGAL: economics (ec). HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HEALTH-SERVICES-NEEDS-AND-DEMAND: economics (ec). *MEDICALLY-UNDERSERVED-AREA.*

MN ABORTION-LEGAL: trends (td). COSTS-AND-COST-ANALYSIS. FEMALE. HEALTH-SERVICES-ACCESSIBILITY: trends (td). HEALTH-SERVICES-NEEDS-AND-DEMAND: legislation-and-jurisprudence (lj), trends (td). HUMAN. HIV-INFECTIONS: complications (co). PREGNANCY. PREGNANCY-COMPLICATIONS-INFECTIOUS: surgery (su). SUPPORT-NON-U-S-GOVT. TIME-FACTORS. UNITED-STATES.

SB Priority Journals (M).

YR 1991.

IS 0014-7354. ERK.

CP UNITED-STATES (Z1.107.567.875).

IM 9205.

ND ENTRY DATE: 920326.

82

AN 92151108. 92000.

AU Kristiansen-I-S. Forde-O-H.

IN Institute of Community Medicine, University of Tromso, Norway.

TI Medical specialists' choice of location: the role of geographical attachment in Norway.

SO Soc-Sci-Med. 1992 Jan. 34(1). P 57-62.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The relation between current place of work (area of the country) and factors that might possibly represent doctors geographical attachments was studied in a sample of 322 Norwegian medical

specialists. Location of hospital residency, age and geographical origin of spouse were associated with current location. Geographical attachment seems to influence doctors' locational choices from start of medical school until the end of their residency. The probability that a doctor shall locate in peripheral areas may increase from less than 10% to more than 50% if the doctor has the residency training in the periphery. Hence, favoring entrance to medical schools of students from the *underserved* areas, and location of graduate and postgraduate medical training in the *underserved* areas, as far as it is feasible while still maintaining medical standards, is suggested by the study. Author-abstract.

MJ PHYSICIANS: supply-and-distribution (sd).

PROFESSIONAL-PRACTICE-LOCATION: statistics-and-numerical-data (sn).

SPECIALTIES-MEDICAL: manpower (ma).

MN ADULT. CAREER-CHOICE. FEMALE. HUMAN. INTERNSHIP-AND-RESIDENCY. MALE. *MEDICALLY-UNDERSERVED-AREA.* NORWAY. REGRESSION-ANALYSIS. SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1992.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 9205.

ND ENTRY DATE: 920319.

83

AN 92150638. 92000.

AU Stumpf-S-H. Bass-K.

IN University of Southern California (USC) School of Medicine, Department of Family Medicine, Los Angeles 90033.

TI Cross cultural communication to help physician assistants provide unbiased health care.

SO Public-Health-Rep. 1992 Jan-Feb. 107(1). P 113-5.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Teaching cross cultural communication typically involves instruction in differences between groups. As part of this course in cross cultural communication, six specific *underserved* population groups are introduced to students as a cultural experience. Additionally, instruction is provided to sensitize students to their personal biases and prejudices through videotaped mock interviews. The combination of instruction and experience forms a paradigm for teaching cross cultural communication in a way that has personal and immediate impact on faculty members and students. The model, "Differences + Discomforts = Discoveries," inhibits factionalizing and promotes depth of knowledge about *underserved* groups as well as personal awareness of prejudicial feelings. As a result, students learn techniques to provide unbiased health care to these, and other, populations. Author-abstract.

MJ COMMUNICATION. CULTURAL-CHARACTERISTICS. PHYSICIANS-ASSISTANTS:

education (ed). PROFESSIONAL-PATIENT-RELATIONS.
QUALITY-OF-HEALTH-CARE.

MN ADAPTATION-PSYCHOLOGICAL. CALIFORNIA. CURRICULUM. GOALS. HUMAN.
MEDICALLY-UNDERSERVED-AREA. MODELS-PSYCHOLOGICAL.
PHYSICIANS-ASSISTANTS: psychology (px), standards (st).
PILOT-PROJECTS. PREJUDICE. STEREOTYPING. TEACHING: methods (mt),
standards (st).

SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.

IS 0033-3549. QJA.

CP UNITED-STATES (Z1.107.567.875).

IM 9205.

ND ENTRY DATE: 920313.

84

AN 92144807. 92000.

AU Bean-X.

IN King/Drew Medical Center, Los Angeles, CA 90059.

TI Meeting the health care needs of *underserved* children `see comments:.

CM Comment in: J Health Care Poor *Underserved* 1991 Fall;2(2):256-8.

SO *J-Health-Care-Poor-Underserved.* 1991 Summer. 2(1). P 147-53;
discussion 154-5.

JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*

PT CONGRESS (CON).

LG English (EN).

MJ CHILD-HEALTH-SERVICES: standards (st).

HEALTH-SERVICES-ACCESSIBILITY: standards (st).

HEALTH-SERVICES-NEEDS-AND-DEMAND. *MEDICALLY-UNDERSERVED-AREA.*

MN CHILD. CHILD-PRESCHOOL. HEALTH-CARE-RATIONING. HUMAN. INFANT.
INFANT-MORTALITY. INFANT-NEWBORN. LOS-ANGELES: epidemiology (ep).
PRIMARY-HEALTH-CARE: organization-and-administration (og).

YR 1991.

IS 1049-2089. A4D.

CP UNITED-STATES (Z1.107.567.875).

IM 9205.

ND ENTRY DATE: 920317.

LAST REVISION DATE: 920722.

85

AN 92144800. 92000.

TI Children at risk. Proceedings of the Third National Conference on
Health Care of the Poor and *Underserved,* Nashville, Tennessee,
October 1991 `see comments:.

CM Comment in: J Health Care Poor *Underserved* 1991 Fall;2(2):251-3.

SO *J-Health-Care-Poor-Underserved.* 1991 Summer. 2(1). P 1-235.

JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*

PT CONGRESS (CON). OVERALL (OVR).

LG English (EN).

MJ DELIVERY-OF-HEALTH-CARE. *MEDICALLY-UNDERSERVED-AREA.* PEDIATRICS.
POVERTY.

MN HUMAN. RISK-FACTORS.
YR 1991.
IS 1049-2089. A4D.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920317.
LAST REVISION DATE: 920707.

86

AN 92135289. 92000.
AU Fullerton-J-T. Palinkas-L. Caverro-C.
IN Department of Community and Family Medicine, University of California, San Diego, La Jolla 92093-0809.
TI Nurse-midwifery services in one multi-ethnic, *underserved* community.
SO *J-Health-Care-Poor-Underserved.* 1991 Fall. 2(2). P 293-306.
JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Through a nurse-midwifery service in a mixed urban and rural agricultural community, we compared maternal risk factors, prenatal care, labor and delivery, and adverse birth outcomes in low-income Mexican-American Hispanic, white (Caucasian), and Southeast Asian women--a three-way analysis rarely reported in the literature. Southeast Asian women were older and had more children. Hispanic women bore children at a younger age. Both Southeast Asians and Hispanics made fewer prenatal visits than did Caucasian women, and used less analgesia and anesthesia during delivery. The incidence of Cesarean section (7.7 percent) and low birthweight (5.9 percent) was compared to local, state, and national reference statistics. Prospective case-controlled studies and cost/benefit analyses of nurse-midwifery services could yield more definitive information. But until more precise data are collected for birth certificates, these studies will be difficult. Author-abstract.
MJ ETHNIC-GROUPS: statistics-and-numerical-data (sn).
MEDICALLY-UNDERSERVED-AREA. NURSE-MIDWIVES: standards (st).
PREGNANCY-OUTCOME.
MN ADOLESCENCE. ADULT. CALIFORNIA: epidemiology (ep). FEMALE. HUMAN. INFANT-NEWBORN. NURSING-EVALUATION-RESEARCH. PREGNANCY. RISK-FACTORS.
YR 1991.
IS 1049-2089. A4D.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920309.

87

AN 92128566. 92000.
TI Access to care `letter; comment:.
CM Comment on: Del Med J 1991 Jul;63(7):439-40.
SO Del-Med-J. 1991 Oct. 63(10). P 637-9.

JT DELAWARE MEDICAL JOURNAL.
 PT COMMENT (COM). LETTER (LET).
 LG English (EN).
 MJ HEALTH-SERVICES-ACCESSIBILITY: economics (ec).
 MN DELAWARE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
 MEDICALLY-UNINSURED.
 YR 1991.
 IS 0011-7781. E0B.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9205.
 ND ENTRY DATE: 920304.
 LAST REVISION DATE: 920610.

88

AN 92126739. 92000.
 AU Stone-V-E. Brown-J. Sidel-V-W.
 IN Dept. of Medicine, Boston City Hospital, Boston University School of
 Medicine, MA.
 TI Decreasing the field strength of the National Health Service Corps:
 will access to care suffer?
 SO *J-Health-Care-Poor-Underserved.* 1991 Winter. 2(3). P 347-58.
 JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB To study the effect that the decline in physicians in the National
 Health Service Corps (NHSC) pipeline will have on access to care for
 patients at sites to which NHSC physicians are assigned, a survey was
 sent to all NHSC physicians completing their obligated service in
 1989. Seventy-four (74) percent of the respondents believed that the
 decreased number of NHSC doctors in the pipeline would threaten the
 existence of their site and 52 percent reported that no doctors or
 clinic sites would be able to provide free or subsidized care if
 their NHSC site were forced to close. Of the physicians who stated
 that their NHSC patients would be able to find an alternative source
 of care, the most commonly cited (33 percent) alternative was the
 local hospital emergency room. We conclude that access to care for
 patients at NHSC sites will be seriously impaired by the decline in
 physicians in the NHSC pipeline. Author-abstract.
 MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution
 (sd).
 MN FEMALE. HEALTH-MANPOWER: statistics-and-numerical-data (sn).
 HEALTH-SERVICES-ACCESSIBILITY: trends (td). HUMAN. MALE.
 SUPPORT-NON-U-S-GOVT. UNITED-STATES.
 YR 1991.
 IS 1049-2089. A4D.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9205.
 ND ENTRY DATE: 920305.

89

AN 92113146. 92000.
AU Schwab-P-M. Weaver-R.
TI Future paradigm: challenge for dental education `editorial:.
SO J-Dent-Educ. 1991 Dec. 55(12). P 774-6.
JT JOURNAL OF DENTAL EDUCATION.
PT EDITORIAL (EDI).
LG English (EN).
MJ DENTISTRY: trends (td). EDUCATION-DENTAL: trends (td).
MN DENTISTS: supply-and-distribution (sd). FORECASTING.
GENERAL-PRACTICE-DENTAL: education (ed), trends (td).
GERIATRIC-DENTISTRY. HEALTH-PLANNING.
HEALTH-SERVICES-ACCESSIBILITY. HEALTH-SERVICES-NEEDS-AND-DEMAND.
HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Priority Journals (M). Dental Journals (D).
YR 1991.
IS 0022-0337. HY7.
CP UNITED-STATES (Z1.107.567.875).
IM 9204.
ND ENTRY DATE: 920214.

90

AN 92092812. 92000.
AU Olle-Goig-J-E.
IN Hospital Albert Schweitzer, Deschappelles, Haiti.
TI `Notes from the Antilles. Vive la difference?:.
TT Notas antillanas: viva la diferencia?
SO Med-Clin (Barc). 1991 Oct 26. 97(14). P 552-4.
JT MEDICINA CLINICA.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
MJ *MEDICALLY-UNDERSERVED-AREA.* POVERTY.
MN HUMAN. SOCIAL-CONDITIONS. WEST-INDIES.
SB Priority Journals (M).
YR 1991.
IS 0025-7753. LTQ.
CP SPAIN (Z1.542.846).
IM 9204.
ND ENTRY DATE: 920130.

91

AN 92079620. 92000.
AU George-S. Payne-N.
TI Resource allocation and underprivilege `letter:.
SO Lancet. 1991 Dec 14. 338(8781). P 1528-9.
JT LANCET.
PT LETTER (LET).
LG English (EN).
MJ HEALTH-CARE-RATIONING: standards (st). *MEDICALLY-UNDERSERVED-AREA.*
NATIONAL-HEALTH-PROGRAMS: organization-and-administration (og).
MN GREAT-BRITAIN. HUMAN.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0023-7507. L0S.
CP ENGLAND (Z1.542.363.300).
IM 9203.
ND ENTRY DATE: 920115.

92

AN 92079427. 92000.
AU Meek-J-C. Valentine-L-R.
IN UKSM-Wichita 67214.
TI The Primary Care Bridging Plan.
SO Kans-Med. 1991 Oct. 92(10). P 241-2.
JT KANSAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH: trends (td).
SCHOOLS-MEDICAL: economics (ec).
MN HUMAN. KANSAS.
YR 1991.
IS 8755-0059. KT4.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920110.

93

AN 92078895. 92000.
AU Allen-D-I. Kamradt-J-M.
IN Department of Family Medicine, Indiana University, Indianapolis.
TI Relationship of infant mortality to the availability of obstetrical care in Indiana.
SO J-Fam-Pract. 1991 Dec. 33(6). P 609-13.
JT JOURNAL OF FAMILY PRACTICE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND. Projects that are currently under way in Indiana to improve access to obstetrical care have not addressed the availability of these services in nonmetropolitan areas. This study was designed to identify all physicians who were providing obstetrical services in every county throughout the state to determine if there is a correlation between the availability of these services and the infant mortality rate in nonmetropolitan counties. METHODS. A state-wide physician profile maintained by the Indiana Academy of Family Physicians was cross-referenced with a telephone survey of all hospitals in the state to identify those physicians providing obstetrical services within each county in Indiana. The number of physicians in each county was then compared with the number of births per year by mothers from that county to determine whether nonmetropolitan counties had sufficient physicians to provide

obstetrical services. Finally, these findings were compared with the most recent infant mortality rate for each nonmetropolitan county. RESULTS. A total of 610 family physicians, 311 obstetricians, and 75 general practitioners were providing obstetrical care in Indiana. There were 10 counties that did not have a physician who delivered babies practicing in that county. Thirty-two counties had more women who needed obstetrical care than the current number of physicians could serve. There was a negative correlation between physician availability and infant mortality in Indiana's nonmetropolitan counties ($r = -.38$; P less than .02). CONCLUSIONS. Access to care for pregnant patients is a major problem in rural Indiana and hampers Indiana's ability to reduce its current infant mortality rate.

Author-abstract.

MJ HEALTH-SERVICES-ACCESSIBILITY. INFANT-MORTALITY. OBSTETRICS: manpower (ma). PHYSICIANS-FAMILY: supply-and-distribution (sd). RURAL-HEALTH.

MN CATCHMENT-AREA-HEALTH: statistics-and-numerical-data (sn). COMPARATIVE-STUDY. FEMALE. HUMAN. INDIANA: epidemiology (ep). INFANT-NEWBORN. *MEDICALLY-UNDERSERVED-AREA.* PREGNANCY.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0094-3509. I4L.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920115.

94

AN 92061190. 92000.

AU Campinha-Bacote-J.

IN College of Nursing, Ohio State University, Columbus.

TI Community mental health services for the *underserved:* a culturally specific model.

SO Arch-Psychiatr-Nurs. 1991 Aug. 5(4). P 229-35.

JT ARCHIVES OF PSYCHIATRIC NURSING.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Underutilization of community mental health services by minorities has been an ongoing concern in the field of mental health. Many agencies are mainstream and ethnocentric in their services to culturally diverse clients, resulting in color-blind treatment approaches. During the era of civil rights, the concept of difference was used to exclude groups of individuals, families, and communities from access to resources. However, ethnicity does matter and make a difference. This article will address the need for culturally relevant services for African-American clients with the dual diagnosis of substance abuse and mental illness. The intent is to provide mental health care providers with a culturally specific model that will render culturally relevant and culturally competent services to individuals from diverse cultural backgrounds.

Author-abstract.

MJ BLACKS. COMMUNITY-MENTAL-HEALTH-CENTERS:
 organization-and-administration (og). MENTAL-DISORDERS: therapy
 (th). MODELS-NURSING. PSYCHOTHERAPY:
 organization-and-administration (og). SUBSTANCE-ABUSE: therapy (th).
 TRANSCULTURAL-NURSING: organization-and-administration (og).
 MN COMMUNITY-MENTAL-HEALTH-CENTERS: utilization (ut). HUMAN.
 MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: nursing (nu).
 ORGANIZATIONAL-OBJECTIVES. SUBSTANCE-ABUSE: nursing (nu).
 SB Nursing Journals (N).
 YR 1991.
 IS 0883-9417. 6YR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9202.
 ND ENTRY DATE: 911219.

95

AN 92059780. 92000.
 AU Alimbekova-O-A. Kalieva-L-K. Aigyrbaeva-A-N.
 TI `Gynecologic diseases in the rural population of Kazakhstan:.
 TT Ginecologicheskie zabolevaniia u sel'skikh zhitel'nits Kazakhstana.
 SO Akush-Ginekol (Mosk). 1991 Jun. (6). P 56-8.
 JT AKUSHERSTVO I GINEKOLOGIIA.
 PT JOURNAL-ARTICLE (ART).
 LG Russian (RS).
 AB A total of 6153 women living in various rural regions of Kazakhstan
 were screened for gynecologic diseases. Various diseases were
 detected in 2366 (38.4%) cases. The highest share of patients was
 found in the Northern regions, where the villages are particularly
 far away from medical institutions. 161 patients (2.6%) with genital
 tuberculosis were detected. This condition was the most incident in
 the Western regions, where the epidemiologic situation in respect of
 tuberculosis of humans and agricultural animals is particularly
 unsatisfactory. Author-abstract.
 MJ GENITAL-DISEASES-FEMALE: epidemiology (ep).
 MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH.
 MN ADULT. AGED. ENGLISH-ABSTRACT. FEMALE. GENITAL-DISEASES-FEMALE:
 etiology (et),prevention-and-control (pc). HUMAN. KAZAKHSTAN:
 epidemiology (ep). MIDDLE-AGE.
 YR 1991.
 IS 0300-9092. 33Y.
 CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
 IM 9202.
 ND ENTRY DATE: 911219.
 CLASS UPDATE: 92.

96

AN 92054870. 92000.
 AU Koltsova-N-I.
 TI `Medical care for expedition watch men in the oil industry:.
 TT Meditsinskaia pomoshch pri ekspeditsionno-vakhtovom trude v

neftiannoi promyshlennosti.

SO Sov-Zdravookhr. 1991. (6). P 50-3.

JT SOVETSKOE ZDRAVOOKHRANENIE.

PT JOURNAL-ARTICLE (ART).

LG Russian (RS).

AB Shortcomings in the organization of medical care for watch keepers lead to the imperfection in the selection of professionals, narrowing of specialized care volume under conditions of watch, differences in the pattern and frequency of applications for medical care, limitation in the access to medical care for the workers of the basic industries, misrepresentation of the essence of the follow-up method, morbidity assessment by applications for medical care and temporary disability. The detected differences require the development of a basically new organizational model for the provision of medical care to persons engaged in expeditionary-watch labour including mobile medical facilities (physician's ambulatory office, sanatorium department with a unit of psychophysiological relief) subordination of public health institutions to the single management cycle, introduction of a document such as "Healthbook of a watch-keeper", reorientation of northern health units to a certain volume of follow-up measures for securing continuity of observation during watch, inter-watch (home) periods, carrying out of medical examinations before and after the flights. Author-abstract.

MJ DELIVERY-OF-HEALTH-CARE. *MEDICALLY-UNDERSERVED-AREA.*
OCCUPATIONAL-HEALTH.

MN ADULT. ENGLISH-ABSTRACT. FEMALE. HUMAN. INDUSTRY. MALE.
MIDDLE-AGE. SEASONS. SIBERIA.

YR 1991.

IS 0038-5239. UWK.

CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).

IM 9202.

ND ENTRY DATE: 911226.

97

AN 92041014. 92000.

AU Hoffmann-R. Schenk-H. Wyss-H.

IN Departement Chirurgie, Universitatsspital Zurich.

TI `Rumania January 1990: acute medical deficits and chronic
shortage--an evaluation at the site:.

TT Rumanien Januar 1990: akute medizinische Engpasse und chronische
Mangelage--eine Beurteilung vor Ort.

SO Helv-Chir-Acta. 1991 Jul. 58(1-2). P 229-34.

JT HELVETICA CHIRURGICA ACTA.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB Between January 4 and 8, 1990, a medical delegation of the University Hospital Zurich (three surgeons, one OT-nurse) was sent to Bukarest. They escorted a large sending of surgical and pharmacological equipment. The assignment was 1. to evaluate the situation in the hospitals around the Bukarest area; 2. to determine the feasibility

and the need of medical emergency support; 3. to assess the usefulness and practicability of medium-term relief. A total of 11 hospitals were visited in Bukarest, Pitesti, Racovita and Schitu-Golesti. It was found that 1. a sufficient number of doctors and medical personnel is available; 2. emergency aid is important regarding pharmaceuticals (local anesthetics, analgetics, insulin), infusions, dressing material, surgical instruments and external fixation equipment; 3. medium-term support is need for the complete medical equipment (syringes, injection and infusion sets, probes, suture material, etc.). Local medical literature and journals are worthless. Doctors long for high-quality medical books and periodicals. We can help] Author-abstract.

MJ DEVELOPING-COUNTRIES. HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).
MEDICAL-MISSIONS-OFFICIAL. *MEDICALLY-UNDERSERVED-AREA.* POLITICS.
MN ENGLISH-ABSTRACT. HUMAN. ROMANIA.
YR 1991.
IS 0018-0181. G4P.
CP SWITZERLAND (Z1.542.883).
IM 9202.
ND ENTRY DATE: 911217.

98

AN 92034550. 92000.
AU Dubois-J-R. Nugent-K. Broder-E.
IN Department of Psychiatry, University of Western Ontario, London.
TI Psychiatric consultation with children in underserved areas:
lessons from experiences in northern Ontario.
SO Can-J-Psychiatry. 1991 Aug. 36(6). P 456-61.
JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB There are only 350 child psychiatrists in Canada. It is therefore unrealistic to expect them to be able to provide sufficient direct treatment, even in small densely populated communities with abundant resources. Such expectations are even more unrealistic in underserved, sparsely populated areas. A review of the literature on psychiatric consultation in underserved areas is presented along with a description of the consultation process, taking advantage of the "multiplier effect." Some of the realities of mental health consultation in underserved areas are discussed, stressing the importance of consultation as a way of professional life. Some guidelines for the psychiatric consultant are outlined which would enhance the "multiplier effect". It is maintained that the training of psychiatric residents should include a supervised experience consulting in underserved areas. Finally, it is hoped that psychiatric training programs, funding bodies, hospitals, and agencies, will recognize the value of this use of psychiatric expertise. Author-abstract.
MJ CHILD-PSYCHIATRY: manpower (ma). *MEDICALLY-UNDERSERVED-AREA.*
RURAL-HEALTH.

MN CHILD. CHILD-PSYCHIATRY: education (ed). CURRICULUM. HUMAN.
INTERNSHIP-AND-RESIDENCY. ONTARIO. PATIENT-CARE-TEAM: trends (td).
SB Priority Journals (M).
YR 1991.
IS 0706-7437. CLR.
CP CANADA (Z1.107.567.176).
IM 9202.
ND ENTRY DATE: 911203.

99

AN 92032235. 92000.
AU Chapman-T-W.
IN Greater Southeast Community Hospital, Washington, DC.
TI Hospital viability and closures.
SO *J-Health-Care-Poor-Underserved.* 1990 Summer. 1(1). P 96-102;
discussion 103-6.
JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-FACILITY-CLOSURE. *MEDICALLY-UNDERSERVED-AREA.*
MN BLACKS. CATCHMENT-AREA-HEALTH: economics (ec).
DISTRICT-OF-COLUMBIA. HOSPITAL-BED-CAPACITY-300-TO-499. HUMAN.
INFANT-MORTALITY. INFANT-NEWBORN. PHYSICIANS:
supply-and-distribution (sd). SOCIAL-PROBLEMS. UNITED-STATES.
YR 1990.
IS 1049-2089. A4D.
CP UNITED-STATES (Z1.107.567.875).
IM 9202.
ND ENTRY DATE: 911211.

100

AN 92032228. 92000.
AU Sullivan-L-W.
TI The federal initiative: a new look at our health policy for the poor
and *underserved.*
SO *J-Health-Care-Poor-Underserved.* 1990 Summer. 1(1). P 3-8.
JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-POLICY. MINORITY-GROUPS.
MN HUMAN. INFANT-MORTALITY. INFANT-NEWBORN.
MEDICALLY-UNDERSERVED-AREA. POVERTY. UNITED-STATES: epidemiology
(ep). UNITED-STATES-DEPT-OF-HEALTH-AND-HUMAN-SERVICES.
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CP UNITED-STATES (Z1.107.567.875).
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AN 92032226. 92000.
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 IN Addiction Research and Treatment Corporation, New York, NY.
 TI AIDS: today's and tomorrow's crisis.
 SO *J-Health-Care-Poor-Underserved.* 1990 Summer. 1(1). P 185-95
 discussion 196-202.
 JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: ethnology (eh), epidemiology
 (ep). *MEDICALLY-UNDERSERVED-AREA.* POVERTY.
 MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: transmission (tm). ADULT.
 BLACKS: statistics-and-numerical-data (sn). CHILD. ETHNIC-GROUPS:
 statistics-and-numerical-data (sn). FEMALE. HEALTH-EDUCATION.
 HISPANIC-AMERICANS: statistics-and-numerical-data (sn). HUMAN.
 MALE. SOCIAL-CONTROL-FORMAL. UNITED-STATES: epidemiology (ep).
 WHITES: statistics-and-numerical-data (sn).
 YR 1990.
 IS 1049-2089. A4D.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9202.
 ND ENTRY DATE: 911211.

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AN 92032225. 92000.
 AU Whiteside-D-F.
 IN U.S. Public Health Service.
 TI Oral health `comment:.
 CM Comment on: J Health Care Poor *Underserved* 1990 Summer;1(1):169-80.
 SO *J-Health-Care-Poor-Underserved.* 1990 Summer. 1(1). P 181-4.
 JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*
 PT COMMENT (COM). JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ORAL-HEALTH. PUBLIC-HEALTH.
 MN CHILD. DENTAL-CARIES: epidemiology (ep). DENTISTRY: manpower (ma).
 HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
 POVERTY. RISK-FACTORS. UNITED-STATES: epidemiology (ep).
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 ND ENTRY DATE: 911211.
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 JT JOURNAL OF HEALTH CARE FOR THE POOR AND *UNDERSERVED.*

PT MEETING-REPORT (MET). OVERALL (OVR).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY. *MEDICALLY-UNDERSERVED-AREA.*
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MN HUMAN. UNITED-STATES.
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AN 92025806. 92000.
AU Mullan-F.
TI The future of primary care in America.
SO Am-Fam-Physician. 1991 Oct. 44(4). P 1481-2, 1484.
JT AMERICAN FAMILY PHYSICIAN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FAMILY-PRACTICE: trends (td). PRIMARY-HEALTH-CARE: trends (td).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0002-838X. 3BT.
CP UNITED-STATES (Z1.107.567.875).
IM 9201.
ND ENTRY DATE: 911101.

105

AN 92015337. 92000.
AU Johnson-C.
IN Duke University Medical Center, Durham, NC 27710.
TI Challenge for the minority physician: gaining quality health care for
the *underserved.*
SO J-Natl-Med-Assoc. 1991 Jul. 83(7). P 563-8.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY. *MEDICALLY-UNDERSERVED-AREA.*
MEDICALLY-UNINSURED. MINORITY-GROUPS.
MN HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN.
MINORITY-GROUPS: education (ed). SOCIETIES-MEDICAL. UNITED-STATES.
YR 1991.
IS 0027-9684. J9Z.
CP UNITED-STATES (Z1.107.567.875).
IM 9201.
ND ENTRY DATE: 911029.

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AN 92013849. 92000.

AU Conn-C-K.
TI Is it time to consider compulsory national universal service?
SO J-Fla-Med-Assoc. 1991 Jul. 78(7). P 417-8.
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ MEDICAL-INDIGENCY. *MEDICALLY-UNDERSERVED-AREA.*
MN HUMAN. INTERPROFESSIONAL-RELATIONS. PHYSICIANS:
supply-and-distribution (sd). UNITED-STATES.
YR 1991.
IS 0015-4148. I53.
CP UNITED-STATES (Z1.107.567.875).
IM 9201.
ND ENTRY DATE: 911101.

107

AN 92011980. 92000.
AU Bernardo-J.
IN Boston University School of Medicine.
TI Tuberculosis: a disease of the 1990s.
SO Hosp-Pract (Off Ed). 1991 Oct 15. 26(10). P 195-8, 202, 207-8
passim.
JT HOSPITAL PRACTICE (OFFICE EDITION).
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB In the United States, the decades preceding the 1980s were
characterized by a decline in the incidence of tuberculosis. More
recently, the trend has undergone a significant reversal: Case rates
have been increasing by 3% to 6% annually. In 1990, more than 25,700
cases were reported to the Centers for Disease Control. In a sense,
tuberculosis is adapting to the '90s. The recent increase in its
incidence tends to affect populations with identifiable
characteristics. Among the most important of these groups are the
populations at high risk for infection by the human immunodeficiency
virus. The increase is also fueled by cases in populations that are
medically *underserved,* including foreign-born persons from
high-prevalence countries, persons with low incomes, and persons
living in long-term-care facilities--especially persons with previous
tuberculosis infection. Thus, factors such as homelessness, chronic
alcohol or drug abuse, malnutrition, and crowded living conditions
continue to favor development and transmission of disease. The
increase in the incidence of tuberculosis appears to be greatest when
subpopulations in such circumstances are also at high risk for HIV
infection. Complex issues in the diagnosis and treatment of
tuberculosis arise from these epidemiologic patterns. HIV infection
is associated with unusual presentations of tuberculosis. Thus, the
clinician must maintain a high index of suspicion for the disease in
the setting of HIV infection or risk of the infection. The
populations at greatest risk are likely to be mistrustful of the
medical system, making the long-term administration of potentially

toxic chemotherapy more difficult than it already is. Chronic substance abuse may complicate compliance and add further difficulties to the monitoring of chemotherapy. At the same time, the monitoring becomes even more important in the physician's effort to minimize adverse effects of the medications. Outbreaks of drug-resistant disease have recently occurred, complicating the selection of drugs and affecting the duration of treatment. Despite all of these problems, it is essential to establish a diagnosis and initiate treatment rapidly, both to arrest the disease process and to limit its transmission. Since Mycobacterium tuberculosis is spread to uninfected persons in aerosols generated by coughing or sneezing, the infectiousness of a patient with active disease can be related, at least in part, to the number of organisms seen on sputum smears. Initiation of therapy is followed by a rapid decline in infectivity. Author-abstract. 10 Refs.

MJ TUBERCULOSIS-PULMONARY.

MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: complications (co). ADULT. ANTITUBERCULAR-AGENTS: therapeutic-use (tu). CASE-REPORT. FOLLOW-UP-STUDIES. HOMELESS-PERSONS. HUMAN. MALE. PATIENT-COMPLIANCE. SUBSTANCE-ABUSE: complications (co). TUBERCULOSIS-PULMONARY: diagnosis (di). UNITED-STATES.

RN 0 -- Antitubercular-Agents.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 8750-2836. HPO.

CP UNITED-STATES (Z1.107.567.875).

IM 9201.

ND ENTRY DATE: 911105.

108

AN 91363071. 91000.

AU Carmichael-C-L.

IN Newcastle Health Authority, Newcastle upon Tyne.

TI A 10-year comparison of General Dental Service care in the Northern Region 1979-1989 `see comments:.

CM Comment in: Br Dent J 1991 Oct 5;171(7):196-7.

SO Br-Dent-J. 1991 Aug 10-24. 171(3-4). P 97-101.

JT BRITISH DENTAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The 1979/1989 patterns of General Dental Service provision in the Northern Region and its nine FPC/FHSA areas have been examined in relation to intraregional variations and assessed against the national average and other regions. Attention is drawn to the Northern Region's failure to reach national averages in a number of key measures of dental care, owing to the low numbers of practitioners working within the Region. It is clear that redistribution of dental manpower will not be generated under the present system. Alternatives are required if dentistry is to continue to be an essential part of a comprehensive health service

for all. Author-abstract.

MJ DENTAL-CARE: statistics-and-numerical-data (sn).
DENTAL-HEALTH-SERVICES: supply-and-distribution (sd).
GENERAL-PRACTICE-DENTAL: statistics-and-numerical-data (sn).
STATE-DENTISTRY: statistics-and-numerical-data (sn).
MN COMPARATIVE-STUDY. DMF-INDEX. ENGLAND.
HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
SCOTLAND.
SB Dental Journals (D).
YR 1991.
IS 0007-0610. ASW.
CP ENGLAND (Z1.542.363.300).
IM 9112.
ND ENTRY DATE: 911015.
LAST REVISION DATE: 920324.

109

AN 91343687. 91000.
AU Yeatts-D-E. Ray-S. List-N. Duggar-B.
IN University of North Texas, Center for Studies in Aging, Denton 76201.
TI Financing geriatric programs in community health centers.
SO Public-Health-Rep. 1991 Jul-Aug. 106(4). P 375-83.
JT PUBLIC HEALTH REPORTS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB There are approximately 600 Community and Migrant Health Centers (C/MHCs) providing preventive and primary health care services principally to *medically* *underserved* rural and urban areas across the United States. The need to develop geriatric programs within C/MHCs is clear. Less clear is how and under what circumstances a comprehensive geriatric program can be adequately financed. The Health Resources and Services Administration of the Public Health Service contracted with La Jolla Management Corporation and Duke University Center on Aging to identify successful techniques for obtaining funding by examining 10 "good practice" C/MHC geriatric programs. The results from this study indicated that effective techniques included using a variety of funding sources, maintaining accurate cost-per-user information, developing a marketing strategy and user incentives, collaborating with the area agency on aging and other community organizations, and developing special services for the elderly. Developing cost-per-user information allowed for identifying appropriate "drawing card" services, negotiating sound reimbursement rates and contracts with other providers, and assessing the financial impact of changing service mixes. A marketing strategy was used to enhance the ability of the centers to provide a comprehensive package of services. Collaboration with the area agency on aging and other community organizations and volunteers in the aging network was found to help establish referral networks and subsequently increase the number of elderly patients served. Finally, development of special services for the elderly, such as

adult day care, case management, and health education, was found to increase program visibility, opportunities to work with the network of services for the aging, and clinical utilization.

Author-abstract. 7 Refs.

MJ COMMUNITY-HEALTH-CENTERS: economics (ec). FINANCIAL-MANAGEMENT: organization-and-administration(og). HEALTH-SERVICES-FOR-THE-AGED: economics (ec).

MN COMMUNITY-HEALTH-CENTERS: organization-and-administration (og). FEES-AND-CHARGES. FINANCING-GOVERNMENT: economics (ec), legislation-and-jurisprudence (lj). FUND-RAISING: economics (ec). HEALTH-SERVICES-FOR-THE-AGED: organization-and-administration (og). HEALTH-SERVICES-ACCESSIBILITY: economics (ec), standards (st). HEALTH-SERVICES-RESEARCH. HUMAN. INSURANCE-HEALTH-REIMBURSEMENT: economics (ec). INTERINSTITUTIONAL-RELATIONS. MARKETING-OF-HEALTH-SERVICES: economics (ec). MOTIVATION. SUPPORT-U-S-GOVT-P-H-S.

SB Abridged Index Medicus Journals (A). Priority Journals (M). YR 1991.

IS 0033-3549. QJA.

CP UNITED-STATES (Z1.107.567.875).

IM 9111.

ND ENTRY DATE: 910920.

LAST REVISION DATE: 920831.

CLASS UPDATE: 91.

NO 240860093.

110

AN 91343253. 91000.

AU Nguyen-H-N. OSullivan-M-J. Fournier-A-M.

IN Department of Obstetrics and Gynecology, University of Miami School of Medicine, FL.

TI The impact of National Health Service Corps physicians in the lowering perinatal mortality rate in Dade County, Florida `retracted by Nguyen HN, O'Sullivan MJ, Fournier AM. In: Obstet Gynecol 1991 Nov;78(5 Pt 1):888:.

SO Obstet-Gynecol. 1991 Sep. 78(3 Pt 1). P 385-90.

JT OBSTETRICS AND GYNECOLOGY.

PT JOURNAL-ARTICLE (ART). RETRACTED-PUBLICATION (RDP).

LG English (EN).

AB In some parts of Dade County, Florida, perinatal mortality rates have revealed serious problems in the delivery of health care to poor pregnant women. From 1982-1985, the reported perinatal mortality rates varied from 32-36 per 1000 live births, more than double the national average. Under the leadership of the Primary Health Care Consortium of Dade County (a federation of community health centers and other primary care providers), National Health Service Corps obstetricians and pediatricians served inner-city, *medically* needy patients as part of a coordinated perinatal plan from 1987-1989. Data on fetal and neonatal deaths, collected from census tracts adjacent to the community health centers, were used to study the

impact of Corps obstetrician and pediatrician placement. The respective perinatal mortality rates were compared with those of 1986 as historic controls. Within a year, the overall perinatal mortality rate was reduced by 45%. As a result, an estimated 320 lives were saved between 1987-1989. This public health achievement represents a measurable impact due to assignment of National Health Service Corps physicians and can be used as a working model to reduce perinatal mortality in *medically* *underserved* communities in the United States. Author-abstract.

MJ FETAL-DEATH: epidemiology (ep). HEALTH-SERVICES-ACCESSIBILITY. INFANT-MORTALITY. *MEDICALLY-UNDERSERVED-AREA.* PRENATAL-CARE: manpower (ma).
MN EVALUATION-STUDIES. FEMALE. FLORIDA: epidemiology (ep). HUMAN. INFANT-NEWBORN. POVERTY-AREAS. PREGNANCY.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0029-7844. OC2.
CP UNITED-STATES (Z1.107.567.875).
IM 9111.
ND ENTRY DATE: 910920.
LAST REVISION DATE: 911218.

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AN 91332291. 91000.
TI The Association's statement to the Subcommittee on Labor, Health and Human Services, Education, Committee on Appropriations.
SO J-Dent-Educ. 1991 Aug. 55(8). P 538-41.
JT JOURNAL OF DENTAL EDUCATION.
PT GUIDELINE (GUI). JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-DENTAL: economics (ec). FINANCING-GOVERNMENT. RESEARCH-SUPPORT. TRAINING-SUPPORT.
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME. DENTAL-CARE-FOR-DISABLED: economics (ec). GENERAL-PRACTICE-DENTAL: economics (ec), education (ed). GERIATRIC-DENTISTRY: economics (ec), education (ed). HUMAN. HIV-INFECTIONS. INTERNSHIP-AND-RESIDENCY: economics (ec). *MEDICALLY-UNDERSERVED-AREA.* MINORITY-GROUPS. SCHOOLS-DENTAL. SOCIETIES-DENTAL. TRAINING-SUPPORT: economics (ec). UNITED-STATES.
SB Priority Journals (M). Dental Journals (D).
YR 1991.
IS 0022-0337. HY7.
CP UNITED-STATES (Z1.107.567.875).
IM 9111.
ND ENTRY DATE: 910919.
CLASS UPDATE: 92.

112

AN 91319041. 91000.
AU Pflaum-D-D.
TI Reaping the rewards of rural practice `interview:.

SO Minn-Med. 1991 May. 74(5). P 7-9.
JT MINNESOTA MEDICINE.
PT INTERVIEW (INT).
LG English (EN).
MJ HOSPITALS-RURAL. *MEDICALLY-UNDERSERVED-AREA.*
PHYSICIANS-PRACTICE-PATTERNS. RURAL-HEALTH.
MN HUMAN. MINNESOTA.
YR 1991.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9111.
ND ENTRY DATE: 910905.
CLASS UPDATE: 92.

113

AN 91311661. 91000.
AU Zarkowski-P.
IN University of Detroit Mercy School of Dentistry.
TI Serving the *underserved* within the metropolitan area.
SO J-Mich-Dent-Assoc. 1991 Jun. 73(5). P 21-4.
JT JOURNAL OF MICHIGAN DENTAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DENTAL-CARE: statistics-and-numerical-data (sn).
DENTAL-CARE-FOR-AGED. DENTAL-CARE-FOR-DISABLED.
MN ADOLESCENCE. ADULT. AGED. HOMELESS-PERSONS. HUMAN.
MEDICALLY-UNDERSERVED-AREA. MICHIGAN. MIDDLE-AGE. NURSING-HOMES.
URBAN-POPULATION.
SB Dental Journals (D).
LI D.
YR 1991.
IS 0026-2102. J4X.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910829.
CLASS UPDATE: 92.

114

AN 91293461. 91000.
AU Blattner-W-A.
IN Viral Epidemiology Section, National Cancer Institute, Bethesda,
Maryland 20892.
TI HIV epidemiology: past, present, and future.
SO FASEB-J. 1991 Jul. 5(10). P 2340-8.
JT FASEB JOURNAL.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The worldwide pandemic of acquired immunodeficiency syndrome (AIDS)
has the potential to cause catastrophic medical and social effects
that will influence world health well into the 21st century. The

causative agent, a lentiretrovirus called human immunodeficiency virus (HIV-1), is spread by intimate exposure to blood and bodily fluids through sexual, parenteral, and mother-to-infant exposure. The natural history from exposure to disease has a median incubation period of 8-10 years and is characterized by progressive depletion of CD-4 positive T lymphocytes as well as effects on other immune and central nervous system cell populations. The World Health Organization (WHO) estimates that between 8 and 10 million persons are currently infected with the virus worldwide, with 8 to 10 times this level projected by some estimates into the 21st century. Recent leveling off of AIDS incidence in the U.S. appears to represent the positive benefits of antiretroviral therapy, and considerable benefit could be seen if such therapies were made more widely available to *medically* *underserved* populations. With prolonged survival, however, other long-term sequelae such as cancer and lymphoma may emerge as significant complications of prolonged immunodeficiency. Furthermore, the large pool of already infected persons and continued spread of the virus make the development of additional therapies and an effective anti-HIV vaccine priorities of medical research. Author-abstract. 54 Refs.

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: epidemiology (ep).
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: immunology (im), transmission (tm). ADOLESCENCE. ADULT. ANTIGENS-CD4: immunology (im). DISEASE-OUTBREAKS. FEMALE. HUMAN. HIV-1: pathogenicity (py). INFANT. INFANT-NEWBORN. LIFE-STYLE. MALE. MIDDLE-AGE.
RN 0 -- Antigens-CD4.
SB Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0892-6638. FAS.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910815.
CLASS UPDATE: 91.

115

AN 91289227. 91000.
AU Sullivan-L-W.
TI Approaches for reducing cancer mortality in minorities.
SO Stat-Bull-Metrop-Insur-Co. 1991 Apr-Jun. 72(2). P 2-5.
JT STATISTICAL BULLETIN / METROPOLITAN INSURANCE COMPANIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB There is an urgent need to reduce cancer mortality among black Americans and other minorities. Although much progress has been made, cancer statistics are not as positive for these groups and the *medically-underserved* populations. Getting Americans to change their behavior patterns--particularly with regard to cigarette smoking--is vitally important. In this regard, physicians and other health care professionals, as well as public and government officials, must speak out. Early detection of risk factors is also critical. Government

has an obligation to make Americans aware of how to reduce adverse health indicators and of making individuals responsible for their own life as well as for the lives of their family members.

Author-abstract.

MJ MINORITY-GROUPS: statistics-and-numerical-data (sn). NEOPLASMS: mortality (mo).
MN AGED. DELIVERY-OF-HEALTH-CARE: economics (ec). FEMALE. HUMAN. LUNG-NEOPLASMS: mortality (mo). MALE. RISK-FACTORS. SMOKING: mortality (mo). SOCIAL-RESPONSIBILITY. UNITED-STATES: epidemiology (ep).
SB Priority Journals (M).
YR 1991.
IS 0741-9767. VBV.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910806.

116

AN 91285817. 91000.
AU Seebom-P.
IN UI College of Medicine.
TI Viable communities can still attract physicians.
SO Iowa-Med. 1991 Apr. 81(4). P 190.
JT IOWA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FAMILY-PRACTICE: manpower (ma). *MEDICALLY-UNDERSERVED-AREA.* RURAL-POPULATION.
MN FAMILY-PRACTICE: statistics-and-numerical-data (sn). HUMAN. IOWA.
YR 1991.
IS 0746-8709. GWQ.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910802.

117

AN 91279231. 91000.
AU Zaknun-D. Oswald-H-P. Zaknun-J. Mayersbach-P. Sperl-W. Schmitzberger-R. Fuchs-D. Sailer-M.
IN Universitäts-Kinderklinik, Innsbruck.
TI `Effects of health and medical undertreatment on the clinical status and social behavior of infants and small children in a Romanian orphanage:.
TT Auswirkungen von hygienischer und medizinischer Unterversorgung auf den klinischen Zustand und das soziale Verhalten bei Säuglingen und Kleinkindern in einem rumänischen Kinderheim.
SO Padiatr-Padol. 1991. 26(1). P 65-7.
JT PADIATRIE UND PADOLOGIE.
PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB The homage of 135 abandoned children in the city of Resita, south west Rumania, has been checked by a medical team from the University of Innsbruck for social, clinical and hyginical situation. The local government had applied for such an investigation. Most of the infections and other diseases are based on a dramatically bad hygienical situation. 52% of checked sera were HIV positiv by RIA and Western Blot, moreover 60% Hepatitis B antigen positiv. We assume a high rate of horizontal transmission of the HIV virus. One of the main clinical symptoms was maternal-deprivation syndrome, with an incidence of 80%. Consequences in personal policy of the homage as well as medical strategies have to follow. Author-abstract.

MJ CHILD-HEALTH-SERVICES: supply-and-distribution (sd).

CHILD-INSTITUTIONALIZED: statistics-and-numerical-data (sn).

COMMUNICABLE-DISEASE-CONTROL: statistics-and-numerical-data (sn).

HEPATITIS-B: epidemiology (ep). HIV-INFECTIONS: epidemiology (ep).

MEDICALLY-UNDERSERVED-AREA. SOCIAL-BEHAVIOR.

MN CHILD-INSTITUTIONALIZED: psychology (px). CHILD-PRESCHOOL.

CROSS-SECTIONAL-STUDIES. ENGLISH-ABSTRACT. HEPATITIS-B: psychology (px), transmission (tm). HUMAN. HIV-INFECTIONS: psychology (px), transmission (tm). INCIDENCE. INFANT. MATERNAL-DEPRIVATION.

RISK-FACTORS. ROMANIA: epidemiology (ep). SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1991.

IS 0030-9338. 00Y.

CP SWITZERLAND (Z1.542.88).

IM 9110.

ND ENTRY DATE: 910731.

118

AN 91261353. 91000.

AU Suttner-P.

IN Institut fur Sozialhygiene und Organisation des Gesundheitsschutzes Halle.

TI `Shortage of medical care in East Germany?::

TT Pflegenotstand in der DDR?

SO Offentl-Gesundheitswes. 1991 Feb. 53(2). P 68-70.

JT OFFENTLICHE GESUNDHEITSWESEN.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB Before the political change took place in the autumn of 1989, there had hardly been any discussions in the former German Democratic Republic regarding the emergency situation in hospitals in respect of patient care (shortage of nurses, funds, and equipment). However, available analyses prove that many problems were already well known. Not only has the lack of nurses been a severe obstacle to humane care, but the fundamental material prerequisites have also been lacking. Comprehensive changes are imperative to create conditions in all hospitals that will ensure that the hospital staff can look after their patients with maximum efficiency and dispatch to promote

speedy patient recovery. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* POLITICS. PUBLIC-HEALTH: trends (td).
QUALITY-OF-HEALTH-CARE: trends (td).
MN ENGLISH-ABSTRACT. FORECASTING. GERMANY-EAST. HUMAN.
YR 1991.
IS 0029-8573. OFE.
CP GERMANY (Z1.542.315).
IM 9109.
ND ENTRY DATE: 910718.
CLASS UPDATE: 92.

119

AN 91253584. 91000.
AU Haggerty-R-J.
IN William T. Grant Foundation, New York, NY 10022-5403.
TI Care of the poor and *underserved* in America. Older adolescents: a
group at special risk.
SO Am-J-Dis-Child. 1991 May. 145(5). P 569-71.
JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ADOLESCENT-MEDICINE. *MEDICALLY-UNDERSERVED-AREA.* POVERTY.
MN ADOLESCENCE. ADOLESCENT-MEDICINE: economics (ec). ADULT. FEMALE.
HUMAN. MALE. MEDICAL-INDIGENCY. PATIENT-ADVOCACY. PEDIATRICS:
economics (ec). PHYSICIANS-ROLE. RISK. SOCIAL-PROBLEMS.
SOCIOECONOMIC-FACTORS. UNEMPLOYMENT. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0002-922X. 3GS.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910710.

120

AN 91253583. 91000.
AU Beachler-M-P.
IN Robert Wood Johnson Foundation, Princeton, NJ 08543-2316.
TI Improving health care for *underserved* infants, children, and
adolescents. The Robert Wood Johnson Foundation's experience.
SO Am-J-Dis-Child. 1991 May. 145(5). P 565-8.
JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHILD-HEALTH-SERVICES: organization-and-administration (og).
HEALTH-SERVICES-RESEARCH. *MEDICALLY-UNDERSERVED-AREA.*
MN ADOLESCENCE. ADOLESCENT-MEDICINE. CHILD. CHILD-PRESCHOOL.
FOUNDATIONS. HUMAN. INFANT. INSURANCE-HEALTH: trends (td).
PILOT-PROJECTS. RESEARCH-SUPPORT. SOCIOECONOMIC-FACTORS.
UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0002-922X. 3GS.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910710.

121

AN 91253579. 91000.
AU Davidson-E-C Jr. Gibbs-C-E. Chapin-J.
IN American College of Obstetricians and Gynecologists, Washington, DC 20024-2188.
TI The challenge of care for the poor and *underserved* in the United States. An American College of Obstetricians and Gynecologists perspective on access to care for *underserved* women.
SO Am-J-Dis-Child. 1991 May. 145(5). P 546-9.
JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Access to pregnancy-related care for women and their infants and to reproductive health services for adolescents are significant concerns to the American College of Obstetricians and Gynecologists (ACOG). Adolescent and young adult women are among those most likely to be uninsured and lack access to health care services. Adolescent pregnancy, low-birth weight, and infant mortality remain major national burdens. The ACOG has taken the position that quality health care should be accessible to all women. The ACOG recommendations regarding health services for adolescents and the ACOG Committee on Health Care for *Underserved* Women's statement of principles regarding universal access for pregnancy-related care, which includes the basic scope of benefits, the characteristics of the providers, and the organization of services are described. Author-abstract.
MJ HEALTH-SERVICES-ACCESSIBILITY. MATERNAL-HEALTH-SERVICES. *MEDICALLY-UNDERSERVED-AREA.* POVERTY.
MN ADOLESCENCE. ADOLESCENT-MEDICINE. CHILD-HEALTH-SERVICES. CHILD-PRESCHOOL. CONFIDENTIALITY. FEMALE. GYNECOLOGY. HUMAN. INFANT-CARE. INFANT-NEWBORN. OBSTETRICS. ORGANIZATIONAL-POLICY. PREGNANCY. PRENATAL-CARE. SOCIETIES-MEDICAL. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0002-922X. 3GS.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910710.

122

AN 91253578. 91000.

AU Berkowitz-C-D.
 IN Ambulatory Pediatric Association, McLean, VA.
 TI Serving the *underserved.* Impact on resident education.
 SO Am-J-Dis-Child. 1991 May. 145(5). P 544-5.
 JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ INTERNSHIP-AND-RESIDENCY. *MEDICALLY-UNDERSERVED-AREA.*
 MN CHILD. CHILD-HEALTH-SERVICES. CURRICULUM. HUMAN. PEDIATRICS.
 SOCIETIES-MEDICAL. TEACHING: methods (mt). UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.
 IS 0002-922X. 3GS.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9109.
 ND ENTRY DATE: 910710.

123

AN 91252361. 91000.
 AU Fleming-J.
 TI Land Rover to Thorn Tree Clinic.
 SO Nurs-Times. 1991 May 29-Jun 4. 87(22). P 54-6.
 JT NURSING TIMES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-HEALTH-NURSING: methods (mt). *MEDICALLY-UNDERSERVED-AREA.*
 NURSING-STAFF: psychology (px). RURAL-POPULATION.
 MN HUMAN. KENYA.
 SB Nursing Journals (N).
 LI N.
 YR 1991.
 IS 0029-6589. 09U.
 CP ENGLAND (Z1.542.363.300).
 IM 9109.
 ND ENTRY DATE: 910710.

124

AN 91245430. 91000.
 AU Kawano-M.
 IN Division of Internal Medicine, Kagoshima Red Cross Hospital.
 TI `A clinical study on the patients with otolaryngological diseases in
 Koshiki Islands:.
 SO Nippon-Jibiinkoka-Gakkai-Kaiho. 1991 Feb. 94(2). P 203-7.
 JT NIPPON JIBIINKOKA GAKKAI KAIHO JOURNAL OF THE
 OTO-RHINO-LARYNGOLOGICAL SOCIETY OF JAPAN.
 PT JOURNAL-ARTICLE (ART).
 LG Japanese (JA).
 AB One hundred and sixty four ENT patients were observed at the Kashima
 village hospital located on the remote, isolated islands (Islands of

Koshiki), Kagoshima prefecture, during two years of April 1987 to March 1989. They were composed of the following conditions; 1. Of the 164 individuals, 46 cases, showing 28.1% were admitted from the other inconvenient districts. 2. About a half of all the patients with acute infectious diseases might be treated by their home doctors. 3. The patients required operative care were contained in the individuals with chronic inflammatory diseases. 4. Most of the cases with acute otitis in summer were caused by naked diving to catch the fishes in these islands. 5. The incidence of the chronic ENT diseases such as perceptive hearing disturbances including the presbycusis, chronic otitis media, chronic sinusitis, and laryngopharyngeal paresthesia in order, were the same as one of the previous reports in the other remote isolated islands. All the general practitioners worked in the remote isolated islands should be necessary to have a special training of fundamental knowledges and clinical skills in otolaryngology. Author-abstract.

MJ OTORHINOLARYNGOLOGIC-DISEASES: epidemiology (ep).
MN ADOLESCENCE. ADULT. AGED. CHILD. CHILD-PRESCHOOL.
ENGLISH-ABSTRACT. FEMALE. HUMAN. INFANT. JAPAN: epidemiology (ep). MALE. *MEDICALLY-UNDERSERVED-AREA.* MIDDLE-AGE.
OTORHINOLARYNGOLOGIC-DISEASES: therapy (th). SEASONS.
YR 1991.
IS 0030-6622. JJZ.
CP JAPAN (Z1.252.474.463).
IM 9109.
ND ENTRY DATE: 910703.

125

AN 91242871. 91000.
AU Mittman-I.
TI A model perinatal genetics program.
SO Birth-Defects. 1990. 26(2). P 93-100.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY: standards (st). *MEDICALLY-UNDERSERVED-AREA.* PRENATAL-CARE: standards (st).
MN COMMUNICATION-BARRIERS. CULTURAL-CHARACTERISTICS.
EDUCATIONAL-STATUS. GENETIC-COUNSELING: economics (ec), organization-and-administration (og). HEALTH-PLANNING-GUIDELINES. HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HOSPITALS-GENERAL. HUMAN. OUTPATIENT-CLINICS-HOSPITAL: organization-and-administration (og), standards (st). PRENATAL-CARE: economics (ec), organization-and-administration (og). SAN-FRANCISCO.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.

ND ENTRY DATE: 910703.

126

AN 91242868. 91000.
AU Pyeritz-R-E.
TI Economic considerations in providing clinical genetic services.
SO Birth-Defects. 1990. 26(2). P 67-73.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: economics (ec). HEALTH-SERVICES-ACCESSIBILITY:
economics (ec). *MEDICALLY-UNDERSERVED-AREA.*
MN GENETIC-COUNSELING: organization-and-administration (og), standards
(st).HEALTH-OCCUPATIONS: standards (st).
HEALTH-SERVICES-ACCESSIBILITY: standards (st). HUMAN.
INSURANCE-HEALTH-REIMBURSEMENT: economics (ec). LICENSURE.
UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

127

AN 91242865. 91000.
AU Cunningham-G-C.
TI Measuring the impact of genetic disorders.
SO Birth-Defects. 1990. 26(2). P 50-3.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: statistics-and-numerical-data (sn).
HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn).
HEREDITARY-DISEASES: epidemiology (ep). *MEDICALLY-UNDERSERVED-AREA.*
MN DATABASES-FACTUAL. GENETIC-COUNSELING: economics (ec), standards
(st). HEALTH-SERVICES-ACCESSIBILITY: economics (ec), standards (st).
HEALTH-SERVICES-RESEARCH: standards (st). HEREDITARY-DISEASES:
economics (ec), mortality (mo). HUMAN. UNITED-STATES: epidemiology
(ep).
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

128

AN 91242863. 91000.
AU Cooper-P-S.

TI The effects of ethnocultural background on access to and use of genetic services. Unequal opportunity.
 SO Birth-Defects. 1990. 26(2). P 46-8.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ BLACKS. GENETIC-COUNSELING: standards (st).
 HEALTH-SERVICES-ACCESSIBILITY: standards (st).
 MATERNAL-HEALTH-SERVICES: standards (st).
 MEDICALLY-UNDERSERVED-AREA.
 MN ADOLESCENCE. FEMALE. HUMAN. INCOME. MEDICAL-INDIGENCY. PREGNANCY. PREGNANCY-IN-ADOLESCENCE: statistics-and-numerical-data (sn). PREJUDICE. SEX-EDUCATION: standards (st). UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0547-6844. A6V.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9109.
 ND ENTRY DATE: 910703.

129

AN 91242862. 91000.
 AU Thorngren-M.
 TI Health care concerns of Hispanic populations.
 SO Birth-Defects. 1990. 26(2). P 39-45.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ATTITUDE-TO-HEALTH: ethnology (eh). GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY: standards (st).
 HEALTH-SERVICES-NEEDS-AND-DEMAND. HISPANIC-AMERICANS.
 MEDICALLY-UNDERSERVED-AREA.
 MN COMMUNICATION-BARRIERS. CULTURAL-CHARACTERISTICS. GENETIC-COUNSELING: utilization (ut). HUMAN. PATIENT-ACCEPTANCE-OF-HEALTH-CARE: ethnology (eh). STEREOTYPING. UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0547-6844. A6V.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9109.
 ND ENTRY DATE: 910703.

130

AN 91242861. 91000.
 AU Bowman-J-E.
 TI Genetic services for *underserved* populations: plenary session.
 SO Birth-Defects. 1990. 26(2). P 3-20; discussion 21-38.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT GUIDELINE (GUI). JOURNAL-ARTICLE (ART).

LG English (EN).

MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st). *MEDICALLY-UNDERSERVED-AREA.*

MN ABORTION-LEGAL: statistics-and-numerical-data (sn).

CONSUMER-PARTICIPATION. DISABLED. GENETIC-COUNSELING: economics
(ec), legislation-and-jurisprudence (lj). HEALTH-POLICY.
HEALTH-SERVICES-ACCESSIBILITY: economics (ec),
legislation-and-jurisprudence (lj). HUMAN. INFANT-MORTALITY.
INFANT-NEWBORN. MATERNAL-MORTALITY. NEONATAL-SCREENING. POVERTY.
SINGLE-PARENT: statistics-and-numerical-data (sn). SOCIAL-VALUES.
STEREOTYPING. UNITED-STATES. WRONGFUL-LIFE.

SB Priority Journals (M).

YR 1990.

IS 0547-6844. A6V.

CP UNITED-STATES (Z1.107.567.875).

IM 9109.

ND ENTRY DATE: 910703.

CLASS UPDATE: 92.

131

AN 91242860. 91000.

TI Genetic services for *underserved* populations. Scope of the problem.

SO Birth-Defects. 1990. 26(2). P 257-80.

JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.

PT CONSENSUS-DEVELOPMENT-CONFERENCE (CDC). JOURNAL-ARTICLE (ART).
REVIEW (REV).

LG English (EN).

AB 0 Refs.

MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st).

MN ADOPTION. ATTITUDE-TO-HEALTH. COMMUNICATION-BARRIERS.

CONSUMER-PARTICIPATION. CONTINUITY-OF-PATIENT-CARE.

CULTURAL-CHARACTERISTICS. EMIGRATION-AND-IMMIGRATION.

FINANCING-ORGANIZED. GENETIC-COUNSELING: economics (ec),

organization-and-administration (og). HEALTH-EDUCATION: standards

(st). HEALTH-PLANNING-GUIDELINES. HEALTH-SERVICES-ACCESSIBILITY:

economics (ec), legislation-and-jurisprudence (lj).

HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN.

MEDICALLY-UNDERSERVED-AREA. MINORITY-GROUPS. PATIENT-ADVOCACY.

REFERRAL-AND-CONSULTATION. STEREOTYPING. UNITED-STATES.

SB Priority Journals (M).

YR 1990.

IS 0547-6844. A6V.

CP UNITED-STATES (Z1.107.567.875).

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132

AN 91242859. 91000.

TI Genetic services for *underserved* populations. Consensus

recommendations.

SO Birth-Defects. 1990. 26(2). P 243-56.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT CONSENSUS-DEVELOPMENT-CONFERENCE (CDC). JOURNAL-ARTICLE (ART).
REVIEW (REV).
LG English (EN).
AB 0 Refs.
MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st). *MEDICALLY-UNDERSERVED-AREA.*
MN GENETIC-COUNSELING: economics (ec), organization-and-administration
(og). HEALTH-EDUCATION: standards (st). HEALTH-PLANNING-GUIDELINES.
HEALTH-SERVICES-ACCESSIBILITY: economics (ec),
legislation-and-jurisprudence (lj). HUMAN.
INTERINSTITUTIONAL-RELATIONS. PATIENT-PARTICIPATION.
POWER-PSYCHOLOGY. UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

133

AN 91242858. 91000.
AU Dixon-B.
TI A model genetic outreach program to meet the needs of geographically
isolated populations.
SO Birth-Defects. 1990. 26(2). P 233-9.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: organization-and-administration (og).
HEALTH-SERVICES-ACCESSIBILITY: standards (st).
MEDICALLY-UNDERSERVED-AREA.
MN ASIA-SOUTHEASTERN: ethnology (eh). CALIFORNIA.
COMMUNICATION-BARRIERS. CULTURAL-CHARACTERISTICS.
FINANCING-GOVERNMENT. GENETIC-COUNSELING: economics (ec), standards
(st). HISPANIC-AMERICANS. HUMAN. MEXICO: ethnology (eh).
ORGANIZATIONAL-OBJECTIVES. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.
NO MCJ061003.

134

AN 91242857. 91000.
AU Toro-Sola-M-A.

TI Providing genetic services in Puerto Rico.
 SO Birth-Defects. 1990. 26(2). P 229-32.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ GENETIC-COUNSELING: organization-and-administration (og).
 HEALTH-SERVICES-ACCESSIBILITY: standards (st).
 MEDICALLY-UNDERSERVED-AREA.
 MN CULTURAL-CHARACTERISTICS. ETHNIC-GROUPS. FORECASTING.
 GENETIC-COUNSELING: standards (st), trends (td). HUMAN.
 INFANT-NEWBORN. NEONATAL-SCREENING: standards (st). POLITICS.
 PUERTO-RICO.
 SB Priority Journals (M).
 YR 1990.
 IS 0547-6844. A6V.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9109.
 ND ENTRY DATE: 910703.

135

AN 91242851. 91000.
 AU Punnett-H-H.
 TI How to seek funds from Federal and private sources.
 SO Birth-Defects. 1990. 26(2). P 207-10.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ FINANCING-GOVERNMENT: economics (ec). GENETIC-COUNSELING: economics
 (ec). HEALTH-PLANNING-SUPPORT: economics (ec).
 MEDICALLY-UNDERSERVED-AREA.
 MN FOUNDATIONS: economics (ec). GENETIC-COUNSELING: standards (st).
 HUMAN. UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0547-6844. A6V.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9109.
 ND ENTRY DATE: 910703.

136

AN 91242848. 91000.
 AU Dodson-D.
 TI Voluntary agencies.
 SO Birth-Defects. 1990. 26(2). P 195-8.
 JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
 standards (st). *MEDICALLY-UNDERSERVED-AREA.* PORPHYRIA: psychology
 (px). SELF-HELP-GROUPS: organization-and-administration (og).

VOLUNTARY-HEALTH-AGENCIES: organization-and-administration (og).
MN CASE-REPORT. FEMALE. HUMAN. ORGANIZATIONAL-OBJECTIVES.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

137

AN 91242846. 91000.
AU Lin-Fu-J-S.
TI The Federal Office of Maternal and Child Health's role.
SO Birth-Defects. 1990. 26(2). P 185-8.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHILD-HEALTH-SERVICES: standards (st). GENETIC-COUNSELING: standards (st).
HEALTH-SERVICES-ACCESSIBILITY: standards (st).
MATERNAL-HEALTH-SERVICES: standards (st).
MEDICALLY-UNDERSERVED-AREA.
MN CHILD. GENETIC-COUNSELING: economics (ec).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN.
RESEARCH-SUPPORT: economics (ec). UNITED-STATES.
UNITED-STATES-DEPT-OF-HEALTH-AND-HUMAN-SERVICES.
VOLUNTARY-HEALTH-AGENCIES: economics (ec),
organization-and-administration (og).
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

138

AN 91242838. 91000.
AU Linney-D-R.
TI Medical financial counseling program.
SO Birth-Defects. 1990. 26(2). P 127-32.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COUNSELING: methods (mt). GENETIC-COUNSELING: economics (ec).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec).
INSURANCE-HEALTH-REIMBURSEMENT: economics (ec).
MEDICALLY-UNDERSERVED-AREA. PATIENT-EDUCATION: methods (mt).
MN GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st). HUMAN. PARENTS: education (ed).
SB Priority Journals (M).
YR 1990.

IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

139

AN 91242836. 91000.
AU Bighorn-S. Bighorn-R.
TI Provision of services at the Fort Peck Indian Reservation.
SO Birth-Defects. 1990. 26(2). P 117-20.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st). INDIANS-NORTH-AMERICAN. *MEDICALLY-UNDERSERVED-AREA.*
MN ATTITUDE-TO-HEALTH: ethnology (eh). CASE-REPORT.
GENETIC-COUNSELING: utilization (ut). HUMAN. INFANT-NEWBORN. MALE.
MONTANA. QUALITY-OF-HEALTH-CARE.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

140

AN 91242835. 91000.
AU Fitzgerald-J.
TI The unique challenge of isolated populations.
SO Birth-Defects. 1990. 26(2). P 115-7.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ GENETIC-COUNSELING: standards (st). HEALTH-SERVICES-ACCESSIBILITY:
standards (st). *MEDICALLY-UNDERSERVED-AREA.* RURAL-POPULATION.
MN ATTITUDE-OF-HEALTH-PERSONNEL. ATTITUDE-TO-HEALTH. HUMAN.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

141

AN 91242830. 91000.
TI National Symposium on Genetic Services for *Underserved* Populations.
Arlington, Virginia, May 1989.
SO Birth-Defects. 1990. 26(2). P 1-290.
JT BIRTH DEFECTS ORIGINAL ARTICLE SERIES.
PT CONGRESS (CON). OVERALL (OVR).

LG English (EN).
MJ GENETIC-COUNSELING. *MEDICALLY-UNDERSERVED-AREA.*
MN HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0547-6844. A6V.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910703.

142

AN 91233452. 91000.
AU Pate-J-A.
TI New hope for rural health.
SO Tex-Med. 1991 Feb. 87(2). P 30-2.
JT TEXAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* MEDICARE: legislation-and-jurisprudence (lj). RATE-SETTING-AND-REVIEW: legislation-and-jurisprudence (lj). REIMBURSEMENT-MECHANISMS: legislation-and-jurisprudence (lj). RURAL-HEALTH: trends (td).
MN HUMAN. TEXAS. UNITED-STATES.
YR 1991.
IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910620.

143

AN 91231111. 91000.
AU Kirby-D. Waszak-C. Ziegler-J.
IN Center for Population Options.
TI Six school-based clinics: their reproductive health services and impact on sexual behavior.
SO Fam-Plann-Perspect. 1991 Jan-Feb. 23(1). P 6-16.
JT FAMILY PLANNING PERSPECTIVES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB An evaluation of the reproductive health programs of six diverse school-based clinics measured the impact of the clinics on sexual behavior and contraceptive use. All six clinics served low-income populations; at five of them, the great majority of the students served were black. An analysis of student visits by type of care given found that these clinics were not primarily family planning facilities; rather, they provided reproductive health care as one component of a comprehensive health program. Student survey data collected in the clinic schools and nearby comparison schools (four sites) or collected both before the clinic opened and two years later (two sites) indicated that the clinics neither hastened the onset of

sexual activity nor increased its frequency. The clinics had varying effects on contraceptive use. Providing contraceptives on site was not enough to significantly increase their use; in only one of the three sites that did so were students in the clinic school significantly more likely than students in the comparison school to have used birth control during last intercourse. However, condom use rose sharply at one clinic school that had a strong AIDS education program and was located in a community where AIDS was a salient issue. At another clinic school, where pregnancy prevention was a high priority and staff issued vouchers for contraceptives, the use of condoms and pills was significantly higher than in the comparison school. A third clinic school--which focused on high-risk youth, emphasized pregnancy prevention and dispensed birth control pills--recorded a significantly higher use of pills than its comparison school. Although the data suggest that the clinics probably prevented small numbers of pregnancies at some schools, none of the clinics had a statistically significant effect on school-wide pregnancy rates. Author-abstract.

MJ KNOWLEDGE-ATTITUDES-PRACTICE. SCHOOL-HEALTH-SERVICES.

SEX-EDUCATION: methods (mt).

MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: prevention-and-control (pc).

ADOLESCENCE. CONTRACEPTION-BEHAVIOR. FEMALE. HUMAN. MALE.

MEDICALLY-UNDERSERVED-AREA. PREGNANCY.

SEXUALLY-TRANSMITTED-DISEASES: prevention-and-control (pc).

SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1991.

IS 0014-7354. ERK.

CP UNITED-STATES (Z1.107.567.875).

IM 9108.

ND ENTRY DATE: 910620.

144

AN 91230522. 91000.

AU el-Guebaly-N. Beausejour-P. Woodside-B. Smith-D. Kapkin-I.

IN Department of Psychiatry, University of Calgary, Alberta.

TI The optimal psychiatrist-to-population ratio: a Canadian perspective.

SO Can-J-Psychiatry. 1991 Feb. 36(1). P 9-15.

JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A systematic effort is underway to rationalize the planning of physician supply. This paper summarizes the current methodologies available and focuses on the attempts to determine the optimal psychiatrist-to-population ratio in Canada. The impact of several variables influencing this ratio is discussed. An outline of the correlation between target physician supply and requirements of future trainees is presented. While the relevant methodology is rapidly evolving, an improved process of data collection is urgently required. A number of challenges for our profession lay ahead, such

as the need for sensitive and reliable measures of the adequacy of psychiatrist and subspecialist supply and public issues arising from the poor geographic distribution of psychiatric manpower.

Author-abstract.

MJ HEALTH-PLANNING: trends (td). HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). PSYCHIATRY: manpower (ma).

MN CANADA. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution (sd). PSYCHIATRY: education (ed). SCHOOL-ADMISSION-CRITERIA.

SB Priority Journals (M).

YR 1991.

IS 0706-7437. CLR.

CP CANADA (Z1.107.567.176).

IM 9108.

ND ENTRY DATE: 910617.

145

AN 91226298. 91000.

AU Foster-A.

IN International Centre for Eye Health, London, UK.

TI Who will operate on Africa's 3 million curably blind people?

SO Lancet. 1991 May 25. 337(8752). P 1267-9.

JT LANCET.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB About half the 6 million blind people in sub-Saharan Africa have surgically curable cataract. The available manpower and resources can only provide services for less than 10% of the new blind cataract patients each year, and little is being done for the estimated 3 million "cataract backlog". A serious limiting factor to the development of prevention of blindness programmes is lack of trained manpower. Despite an increase in the number of ophthalmologists trained in cataract surgery (which varies greatly from country to country), this number is not keeping pace with increased demand for eye-care services, especially in large rural populations. Initiatives that will help to overcome this dilemma are specific post-graduate courses in community ophthalmology in Africa, plans to develop a one-year diploma in ophthalmology course for English-speaking West African countries, and a proposal to upgrade a similar course in Zimbabwe. Additionally there is a need for the training of more ophthalmic assistants, cataract surgeons, and nurses in the diagnosis and management of common ophthalmic disorders. Experienced expatriate ophthalmologists also have an important role in the teaching of doctors and ophthalmic assistants how to select patients and carry out successful inexpensive cataract surgery with appropriate technology and limited facilities. Author-abstract.

MJ BLINDNESS: prevention-and-control (pc). CATARACT-EXTRACTION. *MEDICALLY-UNDERSERVED-AREA.* OPHTHALMOLOGY: manpower (ma).

MN AFRICA. EDUCATION-MEDICAL-GRADUATE.

HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN. OPHTHALMOLOGY: education

(ed).

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0023-7507. L0S.

CP ENGLAND (Z1.542.363.300).

IM 9108.

ND ENTRY DATE: 910610.

146

AN 91222731. 91000.

AU Broadfoot-R.

IN West of Scotland Centre for Postgraduate Dental Education, Glasgow.

TI The Scottish distance VT scheme. Aims and development.

SO Br-Dent-J. 1991 Apr 6. 170(7). P 274.

JT BRITISH DENTAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ EDUCATION-DENTAL-CONTINUING. GENERAL-PRACTICE-DENTAL: education (ed). *MEDICALLY-UNDERSERVED-AREA.*

MN HUMAN. SCOTLAND.

SB Dental Journals (D).

YR 1991.

IS 0007-0610. ASW.

CP ENGLAND (Z1.542.363.300).

IM 9108.

ND ENTRY DATE: 910613.

147

AN 91220773. 91000.

AU Rosenblatt-R-A. Lishner-D-M.

IN Department of Family Medicine, University of Washington School of Medicine, Seattle 98195.

TI Surplus or shortage? Unraveling the physician supply conundrum.

SO West-J-Med. 1991 Jan. 154(1). P 43-50.

JT WESTERN JOURNAL OF MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB Although the supply of physicians in the United States has doubled during the past 20 years, there is still disagreement as to whether we currently have or should expect a significant surplus of physicians. The evidence suggests that despite the rapid expansion in the pool of available physicians, serious physician shortages persist for certain rural populations, ethnic and occupational groups, and other *medically* disadvantaged segments of the population. Medical students' declining interest in rural practice and primary care specialties suggests that problems of geographic and specialty maldistribution may worsen despite a rising population of physicians. It is unlikely that a significant physician surplus will develop unless there is a conscious attempt to limit the proportion of

national wealth expended on medical care. Pockets of shortage can be reduced by broadening the availability of health insurance, lessening large income disparities between different specialties, changing the way teaching institutions are reimbursed for their training costs, and supporting direct governmental service programs such as the National Health Service Corps. Author-abstract. 77 Refs.

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution (sd).

MN HUMAN. PHYSICIANS: economics (ec), trends (td).
PHYSICIANS-WOMEN:supply-and-distribution (sd). RURAL-HEALTH.
UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0093-0415. XN5.

CP UNITED-STATES (Z1.107.567.875).

IM 9108.

ND ENTRY DATE: 910603.

148

AN 91214329. 91000.

AU Earnest-M-P.

IN Task Force on Access to Health Care, American Academy of Neurology,
Minneapolis, Minn.

TI Access to health care. One neurologist's perspective.

SO Arch-Neurol. 1991 May. 48(5). P 476-9.

JT ARCHIVES OF NEUROLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Millions of residents of the United States have difficulty obtaining health care. Barriers impeding access to care include poverty, physical unavailability of health care services, absence of health insurance, and physicians unwilling to care for uninsured patients. Many patients do not successfully use health services because of educational, cultural, and language barriers. A major access barrier is lack of health insurance. Over 30 million people in the United States have none, the so-called *medically* indigent. Among them are over 3 million people with neurologic disorders. They have additional barriers to overcome because often they cannot work, cannot drive, have difficulty using public transportation, and have major cognitive and communication impairments. Medical and governmental bodies are debating solutions to the health care access crisis. Physicians should actively participate in this national debate. Neurologists should address the special needs of patients with neurological disorders. Author-abstract.

MJ HEALTH-SERVICES-ACCESSIBILITY. NEUROLOGY.

MN HUMAN. MEDICAL-INDIGENCY. *MEDICALLY-UNDERSERVED-AREA.*
NERVOUS-SYSTEM-DISEASES: epidemiology (ep). PHYSICIANS-ROLE.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0003-9942. 80K.

CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910530.

149

AN 91214328. 91000.
AU Menken-M.
IN Robert Wood Johnson Medical School, University of Medicine and
Dentistry of New Jersey, New Brunswick.
TI Caring for the *underserved.* Health insurance coverage is not enough.
SO Arch-Neurol. 1991 May. 48(5). P 472-5.
JT ARCHIVES OF NEUROLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY. INSURANCE-HEALTH.
MN ETHNIC-GROUPS. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0003-9942. 80K.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910530.

150

AN 91208614. 91000.
AU Biehn-J.
TI Looming manpower shortage has Canada's obstetricians worried
`letter:.
SO Can-Med-Assoc-J. 1991 May 1. 144(9). P 1108.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ OBSTETRICS: manpower (ma).
MN ABORTION-INDUCED. CANADA. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 9108.
ND ENTRY DATE: 910530.

151

AN 91200516. 91000.
AU Culpepper-L.
TI Research in the urban setting.
SO Fam-Med. 1991 Mar-Apr. 23(3). P 173-4, 237-8.
JT FAMILY MEDICINE.
PT JOURNAL-ARTICLE (ART).

LG English (EN).
MJ FAMILY-PRACTICE: organization-and-administration (og).
PHYSICIANS-FAMILY. URBAN-HEALTH.
MN FAMILY-PRACTICE: manpower (ma). HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
RESEARCH-DESIGN. UNITED-STATES.
SB Priority Journals (M).
YR 1991.
IS 0742-3225. FAL.
CP UNITED-STATES (Z1.107.567.875).
IM 9107.
ND ENTRY DATE: 910522.

152

AN 91194685. 91000.
TI Increasing breast cancer screening among the *medically*
underserved--Dade County, Florida, September 1987-March 1991.
SO MMWR-Morb-Mortal-Wkly-Rep. 1991 Apr 26. 40(16). P 261-3.
JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Efforts to detect breast cancer at early stages are critical in
reducing breast cancer-associated mortality. However, in the United
States, different barriers (e.g., lack of insurance, limited access
to medical care, and limited awareness of the importance of early
diagnosis and treatment) prevent certain groups from using early
detection services. To promote early detection of breast cancer
among an estimated 67,000 *medically* *underserved* women aged greater
than or equal to 40 years, the Early Detection Program (EDP) was
begun in Dade County, Florida, in the fall of 1987 (1). This report
summarizes the progress of the program for September 1987 through
March 1991.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.
MJ BREAST-NEOPLASMS: diagnosis (di). *MEDICALLY-UNDERSERVED-AREA.*
MN ADULT. AGED. BREAST-NEOPLASMS: ethnology (eh), epidemiology (ep).
FEMALE. FLORIDA: epidemiology (ep). HUMAN. MASS-SCREENING.
MEDICAL-INDIGENCY. MIDDLE-AGE.
SB Priority Journals (M).
YR 1991.
IS 0149-2195. NE8.
CP UNITED-STATES (Z1.107.567.875).
IM 9107.
ND ENTRY DATE: 910516.
CLASS UPDATE: 91.

153

AN 91190741. 91000.
AU Ahmed-M-H.
IN Department of Psychiatry, A.B.U. Teaching Hospital, Kaduna, Nigeria.
TI The historical development of western psychiatric practice in
northern Nigeria--an uphill struggle.
SO West-Afr-J-Med. 1990 Oct-Dec. 9(4). P 311-6.

JT WEST AFRICAN JOURNAL OF MEDICINE.

PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).

LG English (EN).

AB The historical development of psychiatric services in what was Northern Nigeria is given. It started with the time when the only thing done for very psychotic patients was custodial in prisons. The appearance of many psychopharmacological agents after 2nd World War made possible the establishment of psychiatric units in general hospitals for the treatment of acute cases only. The arrival of Oshodi in 1961 led to the evolution of modern psychiatric services with the unit he started in Kaduna-Zaria at the apex of the services provided throughout the Northern States. The unit in Kaduna was to evolve into a University Teaching Department. It is still at the apex of psychiatric services of most of the ten Northern States. Some of the other erstwhile peripheral units have also metamorphosed into nuclei of the four younger University Teaching Units. From only one psychiatrist up to 1977, there are now 12 out of the just over 60 psychiatrists in the whole country, practicing in the Northern States. Relative mental health for the more than 50% of the 100 million people of Nigeria living in the Northern States by the year 2000 is very much in doubt unless something is done with dispatch. Author-abstract.

MJ MENTAL-HEALTH-SERVICES: history (hi).

MN HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MENTAL-HEALTH-SERVICES: manpower (ma), organization-and-administration (og). NIGERIA. POLITICS. PSYCHIATRY: history (hi), methods (mt).

PN Oshodi-D-C.

YR 1990.

IS 0189-160X. AYQ.

CP NIGERIA (Z1.58.432.645).

IM 9107.

ND ENTRY DATE: 910516.

154

AN 91189671. 91000.

AU Swinney-J-E.

TI Is health care racist? `letter; comment:.

CM Comment on: ANS Adv Nurs Sci 1990 Jan;12(2):47-55.

SO ANS-Adv-Nurs-Sci. 1991 Mar. 13(3). P vi-viii.

JT ANS. ADVANCES IN NURSING SCIENCE.

PT COMMENT (COM). LETTER (LET).

LG English (EN).

MJ DELIVERY-OF-HEALTH-CARE. *MEDICALLY-UNDERSERVED-AREA.* PREJUDICE. RACE-RELATIONS.

MN HUMAN. RACE-RELATIONS: psychology (px). UNITED-STATES.

SB Priority Journals (M). Nursing Journals (N).

YR 1991.

IS 0161-9268. 6E9.

CP UNITED-STATES (Z1.107.567.875).

IM 9107.

ND ENTRY DATE: 910506.

LAST REVISION DATE: 910724.

CLASS UPDATE: 91.

155

AN 91181356. 91000.

AU Murthy-D-P. Gupta-A-C. Maku-J.

IN University of Papua New Guinea, Port Moresby General Hospital,
Boroko.

TI An uncommon cause of death from upper respiratory tract obstruction.

SO P-N-G-Med-J. 1990 Sep. 33(3). P 241-5.

JT PAPUA NEW GUINEA MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The death of a 45-year-old man from obstruction of the inlet of the larynx by a cyst causing acute upper respiratory obstruction is described. The pathological features of the cyst are suggestive of a saccular (laryngeal) cyst. Author-abstract.

MJ AIRWAY-OBSTRUCTION: etiology (et). LARYNGEAL-NEOPLASMS: complications (co).

MN ACUTE-DISEASE. CASE-REPORT. HUMAN. LARYNGEAL-NEOPLASMS: pathology (pa), ultrastructure (ul). LARYNX: pathology (pa). MALE.

MEDICALLY-UNDERSERVED-AREA. MIDDLE-AGE.

YR 1990.

IS 0031-1480. YEU.

CP PAPUA-NEW-GUINEA (Z1.782.590.694.630).

IM 9107.

ND ENTRY DATE: 910429.

156

AN 91180760. 91000.

AU Paul-B-K.

IN Department of Geography, Kansas State University, Manhattan 66506.

TI Health service resources as determinants of infant death in rural Bangladesh: an empirical study.

SO Soc-Sci-Med. 1991. 32(1). P 43-9.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Using empirical data collected from a rural area of Bangladesh, this paper examines the relative importance of availability of health care resources on infant death. Following many health care studies, this paper hypothesizes that the likelihood of infant death is a function of accessibility to different types of health facilities and personnel. Both univariate and multivariate analyses of data indicate that the distance to a qualified physician of Western medicine exerts significant influence on infant deaths. Other variables considered are distance to Upazila Health Complex (UHC),

Family Welfare Center (FWC), and non-qualified doctors.

Author-abstract.

MJ INFANT-MORTALITY. *MEDICALLY-UNDERSERVED-AREA.*

MN BANGLADESH. HUMAN. INFANT. INFANT-NEWBORN. ODDS-RATIO.
RURAL-HEALTH.

SB Priority Journals (M).

YR 1991.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 9107.

ND ENTRY DATE: 910429.

157

AN 91177160. 91000.

AU Carpenter-K-L.

TI Primary care physicians in Delaware--are there enough? `editorial:.

SO Del-Med-J. 1990 Dec. 62(12). P 1453-4, 1457-8.

JT DELAWARE MEDICAL JOURNAL.

PT EDITORIAL (EDI).

LG English (EN).

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS-FAMILY:
supply-and-distribution (sd).

MN DELAWARE. HUMAN.

YR 1990.

IS 0011-7781. E0B.

CP UNITED-STATES (Z1.107.567.875).

IM 9107.

ND ENTRY DATE: 910429.

158

AN 91173760. 91000.

AU Iastrebov-V-S. Liberman-IuI. Rotshtein-V-G. Solokhina-T-A.

TI `Prospects of elaborating the scientific basis for organizing the
psychiatric services:.

TT Perspektivy razrabotki nauchnykh osnov organizatsii psikhiatriceskoi pomoshchi.

SO Zh-Nevropatol-Psikhiatr. 1990. 90(11). P 66-70.

JT ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA.

PT JOURNAL-ARTICLE (ART).

LG Russian (RS).

AB It is evident that the setting up of efficient psychiatric services today is not feasible without elaborating serious theoretical concepts. In the authors' opinion, the method which would make it possible to rapidly design the system of psychiatric services for any region on the basis of the data on its geography, population and resources rather than concrete universal services is to be the final product of the theory of psychiatric services. To design such a method, it is necessary to explore a number of important problems of the epidemiological and ++medico-demographic character. The authors provide a list of the studies to be carried out according to the

indicated directions as well as of the problems to be solved within the framework of the investigations of the models proper of psychiatric services. Author-abstract.

MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration (og). HEALTH-SERVICES-RESEARCH: organization-and-administration (og). MENTAL-DISORDERS: diagnosis (di). MODELS-THEORETICAL.
MN COMMUNITY-MENTAL-HEALTH-SERVICES: trends (td). ENGLISH-ABSTRACT. HEALTH-SERVICES-NEEDS-AND-DEMAND. HEALTH-SERVICES-RESEARCH: trends (td). HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MENTAL-DISORDERS: therapy (th). USSR.
SB Priority Journals (M).
YR 1990.
IS 0044-4588. Y9Y.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 9106.
ND ENTRY DATE: 910425.

159

AN 91170557. 91000.
AU Smith-J-P.
TI Rural communities feel isolated from health care in England
`editorial:.
SO J-Adv-Nurs. 1991 Jan. 16(1). P 1.
JT JOURNAL OF ADVANCED NURSING.
PT EDITORIAL (EDI).
LG English (EN).
MJ HEALTH-CARE-RATIONING: trends (td). *MEDICALLY-UNDERSERVED-AREA.*
PRIMARY-HEALTH-CARE: standards (st). RURAL-POPULATION.
MN ENGLAND. HUMAN.
SB Priority Journals (M). Nursing Journals (N).
YR 1991.
IS 0309-2402. H3L.
CP ENGLAND (Z1.542.363.300).
IM 9106.
ND ENTRY DATE: 910425.

160

AN 91169752. 91000.
AU McCool-R.
TI Medical volunteerism. you get more than you give.
SO Iowa-Med. 1991 Jan. 81(1). P 8-11.
JT IOWA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DEVELOPING-COUNTRIES. VOLUNTARY-WORKERS.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MISSIONS-AND-MISSIONARIES.
YR 1991.
IS 0746-8709. GWQ.
CP UNITED-STATES (Z1.107.567.875).
IM 9106.

ND ENTRY DATE: 910422.

161

AN 91164240. 91000.

AU Nielsen-B. Miaskowski-C. McCoy-C. Rudisch-M.

IN Sylvester Comprehensive Cancer Center, Miami, FL.

TI The development and implementation of standards of care in a breast cancer screening program.

SO Oncol-Nurs-Forum. 1991 Jan-Feb. 18(1). P 67-72.

JT ONCOLOGY NURSING FORUM.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The development and implementation of process, structure, and outcome standards were an integral part of program development for a mobile mammography screening program that provides service for the economically disadvantaged through the collaborative effort of eight primary healthcare centers, the Dade County Health Department, and the University of Miami/Jackson Memorial Hospital. The standards are used to guide and evaluate the screening program's operation and to provide the framework for additional program components (e.g., developing performance appraisals and quality assurance and risk management programs, establishing policies and procedures, and serving as the foundation for education and research projects). Examples of standards are provided to assist others in developing a systematic and ongoing evaluation plan for mobile mammography screening. Author-abstract.

MJ BREAST-NEOPLASMS: prevention-and-control (pc). MAMMOGRAPHY: standards (st). MASS-SCREENING: standards (st).

MOBILE-HEALTH-UNITS: standards (st). NURSING-CARE: standards (st).

MN BREAST-NEOPLASMS: nursing (nu), radiography (ra).

CONTINUITY-OF-PATIENT-CARE: standards (st). FEMALE. FLORIDA.

HUMAN. MASS-SCREENING: methods (mt), organization-and-administration (og). *MEDICALLY-UNDERSERVED-AREA.* MOBILE-HEALTH-UNITS:

organization-and-administration (og). ORGANIZATIONAL-OBJECTIVES.

OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE: methods (mt).

QUALITY-ASSURANCE-HEALTH-CARE.

SB Priority Journals (M). Nursing Journals (N).

YR 1991.

IS 0190-535X. PAD.

CP UNITED-STATES (Z1.107.567.875).

IM 9106.

ND ENTRY DATE: 910415.

162

AN 91163507. 91000.

AU Burke-E-C.

TI Bringing equity and balance to health care access `editorial:.

SO Minn-Med. 1991 Jan. 74(1). P 5-6.

JT MINNESOTA MEDICINE.

PT EDITORIAL (EDI).

LG English (EN).
 MJ HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
 INSURANCE-HEALTH: legislation-and-jurisprudence (lj).
 MEDICAL-INDIGENCY: legislation-and-jurisprudence (lj).
 MEDICALLY-UNDERSERVED-AREA.
 MN HUMAN. MINNESOTA.
 YR 1991.
 IS 0026-556X. NBY.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9106.
 ND ENTRY DATE: 910415.

163

AN 91159970. 91000.
 AU McCoy-C-B. Nielsen-B-B. Chitwood-D-D. Zavertrnik-J-J. Khoury-E-L.
 IN Cancer Control Division, Sylvester Comprehensive Cancer Center,
 University of Miami School of Medicine, FL.
 TI Increasing the cancer screening of the *medically* *underserved* in south
 Florida.
 SO Cancer. 1991 Mar 15. 67(6 Suppl). P 1808-13.
 JT CANCER.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Diagnosis and treatment of cancers at advanced stages have
 contributed to a significantly lower survival rate among individuals
 of low socioeconomic status compared with those in higher brackets.
 In an effort to increase the accessibility and acceptability of
 cancer screening among such individuals in Dade County, Florida, the
 Cancer Control Division of the Sylvester Comprehensive Cancer Center
 at the University of Miami School of Medicine initiated a pilot early
 detection program in 1987. The program initially provided breast
 cancer screening for women, aged 40 and older, who attended ten
 community health care centers located in low-income neighborhoods.
 With the selection of Miami by the American Cancer Society as one of
 three sites for conducting a screening demonstration project for the
 socioeconomically disadvantaged, this program has recently been
 expanded to include pelvic screening for women, aged 40 and older,
 and prostate screening for men, aged 65 and older. Author-abstract.
 MJ COMMUNITY-HEALTH-CENTERS: organization-and-administration (og).
 MASS-SCREENING: utilization (ut). NEOPLASMS: prevention-and-control
 (pc). PATIENT-ACCEPTANCE-OF-HEALTH-CARE:
 statistics-and-numerical-data (sn). PREVENTIVE-HEALTH-SERVICES:
 organization-and-administration (og).
 MN ADULT. AGED. FEMALE. FLORIDA. HOSPITALS-COUNTY:
 organization-and-administration(og). HUMAN. MALE. MAMMOGRAPHY:
 utilization (ut). MEDICAL-INDIGENCY. MIDDLE-AGE. NEOPLASMS:
 economics (ec). POVERTY. SOCIOECONOMIC-FACTORS.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.

IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9106.
ND ENTRY DATE: 910415.

164

AN 91157719. 91000.
AU Sullivan-F.
TI Call for physician assistance `letter:.
SO Am-Fam-Physician. 1991 Mar. 43(3). P 781.
JT AMERICAN FAMILY PHYSICIAN.
PT LETTER (LET).
LG English (EN).
MJ INTERNATIONAL-COOPERATION. *MEDICALLY-UNDERSERVED-AREA.* REFUGEES.
MN AFGHANISTAN. HUMAN.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0002-838X. 3BT.
CP UNITED-STATES (Z1.107.567.875).
IM 9106.
ND ENTRY DATE: 910411.

165

AN 91152681. 91000.
AU Druckman-M.
TI North of Siberia, the medical challenges are many `published erratum
appears in Can Med Assoc J 1991 May 1;144(9):1112:.
SO Can-Med-Assoc-J. 1991 Mar 15. 144(6). P 755, 759.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ INTERNATIONAL-COOPERATION. *MEDICALLY-UNDERSERVED-AREA.*
MN ADOLESCENCE. ADULT. FEMALE. HUMAN. MALE. SIBERIA.
WORLD-HEALTH.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 9106.
ND ENTRY DATE: 910411.
LAST REVISION DATE: 910605.

166

AN 91152646. 91000.
AU Johnston-C.
TI Program at Ontario university gives students taste of Third World
medicine `see comments:.
CM Comment in: Can Med Assoc J 1991 Oct 15;145(8):920-1.
SO Can-Med-Assoc-J. 1991 Mar 1. 144(5). P 584-6.

JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ INTERNATIONAL-EDUCATIONAL-EXCHANGE.
 MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MEDICINE-TRADITIONAL. NIGERIA.
 ONTARIO. STUDENTS-MEDICAL. STUDENTS-NURSING.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.
 IS 0008-4409. CKW.
 CP CANADA (Z1.107.567.176).
 IM 9106.
 ND ENTRY DATE: 910408.
 LAST REVISION DATE: 920309.

167

AN 91142354. 91000.
 AU Sundwall-D-N. Tavani-C.
 IN Health Resources and Services Administration (HRSA), Public Health
 Service, Rockville, MD 20857.
 TI The role of public health in providing primary care for the *medically*
 underserved.
 SO Public-Health-Rep. 1991 Jan-Feb. 106(1). P 2-5.
 JT PUBLIC HEALTH REPORTS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Strategies designed to meet the health care needs of Americans should
 include the issues of access as well as financing. And primary care
 and clinical preventive services should receive as much national
 attention as acute care and long-term care. The public health system
 at the Federal, State, and local levels with its mandate to assure
 conditions in which people can be healthy must also be incorporated
 into the national debate. Publicly funded infrastructures for
 delivering primary health care have become a significant element of
 assuring access at the community level. This paper examines the
 expanding role of public health in assuring access to the delivery of
 primary health care and clinical preventive services to vulnerable
 populations within the larger issue of who should have access to care
 and how it should be made available. Special attention is paid to
 the part played by the Health Resources and Services Administration
 (HRSA) of the Public Health Service, which, in the Federal fiscal
 year that began on October 1, 1989, administered some \$1.8 billion
 worth of programs for health care of targeted populations and for the
 support of training in the health professions. Author-abstract.
 MJ HEALTH-SERVICES-ACCESSIBILITY. MEDICAL-INDIGENCY.
 PRIMARY-HEALTH-CARE. PUBLIC-HEALTH.
 MN DELIVERY-OF-HEALTH-CARE. HUMAN. NATIONAL-HEALTH-PROGRAMS: economics
 (ec). UNITED-STATES.
 UNITED-STATES-HEALTH-RESOURCES-AND-SERVICES-ADMINISTRATION.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.
IS 0033-3549. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910322.
LAST REVISION DATE: 920831.
CLASS UPDATE: 91.

168

AN 91142353. 91000.
AU Tavani-C.
IN Public Health Service's Health Resources and Services Administration (HRSA), Office of Planning, Evaluation, and Legislation, Rockville, MD 20857.
TI Report on a seminar on financing and service delivery issues in caring for the *medically* *underserved*.
SO Public-Health-Rep. 1991 Jan-Feb. 106(1). P 19-26.
JT PUBLIC HEALTH REPORTS.
PT MEETING-REPORT (MET).
LG English (EN).
AB Current national activities directed toward improving access to health care and assessing the potential effectiveness of various financing and service delivery strategies were reviewed by an invited group of 39 public and private sector health policy experts. Health care access problems of the *medically* *underserved* population were defined and a range of strategies for addressing them were presented. The seminar was held at Columbia, MD, July 6-7, 1988, sponsored jointly by the Robert Wood Johnson Foundation and the Health Resources and Services Administration, PHS. Author-abstract.
MJ DELIVERY-OF-HEALTH-CARE: economics (ec).
HEALTH-SERVICES-ACCESSIBILITY: economics (ec). MEDICAL-INDIGENCY: economics (ec).
MN FINANCING-GOVERNMENT. HUMAN. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0033-3549. QJA.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910322.
LAST REVISION DATE: 920831.
CLASS UPDATE: 91.

169

AN 91142349. 91000.
AU Crane-A-B.
IN Division of Planning and Evaluation, Health Resources and Services Administration, Rockville, MD 20857.
TI HRSA's collaborative efforts with national organizations to expand primary care for the *medically* *underserved*.
SO Public-Health-Rep. 1991 Jan-Feb. 106(1). P 10-4.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB As the Federal agency that provides leadership in expanding access to primary health care, the Health Resources and Services Administration (HRSA) manages some 50 programs directed toward the delivery of services and strengthening the base of national health resources. An enabling element of the agency's strategy is the expansion of partnerships with national associations, private foundations, and other entities that share a concern for the health care of the *medically* *underserved.* Cooperative efforts with national organizations are intended to promote the integration of public and private resources and encourage adoption of efficient approaches to organizing and financing health care. Medical education in the primary care specialties, State programs for women and children, involvement of managed care organizations with low-income populations, and programs concerning the uninsured are the foci of some of these collaborative relationships. Author-abstract.

MJ INTERINSTITUTIONAL-RELATIONS. MEDICAL-INDIGENCY.

NATIONAL-HEALTH-PROGRAMS: organization-and-administration (og).

PRIMARY-HEALTH-CARE: organization-and-administration (og).

UNITED-STATES-HEALTH-RESOURCES-AND-SERVICES-ADMINISTRATION:
organization-and-administration (og).

MN CHILD. FEMALE. HUMAN. PREGNANCY. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0033-3549. QJA.

CP UNITED-STATES (Z1.107.567.875).

IM 9105.

ND ENTRY DATE: 910322.

LAST REVISION DATE: 920831.

CLASS UPDATE: 91.

170

AN 91140424. 91000.

AU Connolly-P-M.

IN Department of Nursing, San Jose State University, California
95192-0057.

TI Services for the *underserved.* A nurse-managed center for the chronically mentally ill.

SO J-Psychosoc-Nurs-Ment-Health-Serv. 1991 Jan. 29(1). P 15-20.

JT JOURNAL OF PSYCHOSOCIAL NURSING AND MENTAL HEALTH SERVICES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB 1. A university-based, nurse-managed center for the chronically mentally ill enhanced the experiences of baccalaureate nursing students with this *underserved* population. 2. The course objectives included psychosocial rehabilitation for chronic illness and provided a good fit between client's needs, course objectives, and the behavioral-ecological model. 3. The project positively changed the

attitudes of nursing students. Changing attitudes of professionals and motivating student interest toward the chronically mentally ill is an imperative for meeting their needs. Author-abstract.

- MJ COMMUNITY-MENTAL-HEALTH-CENTERS: organization-and-administration (og). *MEDICALLY-UNDERSERVED-AREA.* NURSING-SUPERVISORY: organization-and-administration (og). OUTPATIENT-CLINICS-HOSPITAL: organization-and-administration (og). PSYCHIATRIC-NURSING: education (ed).
- MN ATTITUDE-OF-HEALTH-PERSONNEL. COMMUNITY-MENTAL-HEALTH-CENTERS: standards (st). EDUCATION-NURSING-BACCALAUREATE: standards (st). HUMAN. MENTAL-DISORDERS: nursing (nu). NURSING-FACULTY-PRACTICE: standards (st). OUTPATIENT-CLINICS-HOSPITAL: standards (st). PILOT-PROJECTS. PROGRAM-EVALUATION. STUDENTS-NURSING: psychology (px). SUPPORT-NON-U-S-GOVT.
- SB Priority Journals (M). Nursing Journals (N).
- YR 1991.
- IS 0279-3695. JUW.
- CP UNITED-STATES (Z1.107.567.875).
- IM 9105.
- ND ENTRY DATE: 910327.

171

- AN 91128553. 91000.
- AU Helms-L-B. Helms-C-M.
- IN College of Education, University of Iowa, Iowa City.
- TI Forty years of litigation involving medical students and their education: II. Issues of finance.
- SO Acad-Med. 1991 Feb. 66(2). P 71-6.
- JT ACADEMIC MEDICINE.
- PT JOURNAL-ARTICLE (ART).
- LG English (EN).
- AB An analysis of reported state and federal adjudication from 1950 through 1989 was undertaken to identify trends in litigation involving medical students and undergraduate medical education. Of the 110 cited judicial decisions during that time, 59 (54%) involved disputes over financing medical education; 43 (73%) were litigated since 1985. This dramatic increase arises primarily from challenges to National Health Service Corps obligations and from attempts to discharge or reorganize debt under the Bankruptcy Code. Medical school graduates enjoyed very little success in these cases. Analysis of court decisions points to a need for informed counseling for medical students, particularly as to the consequences of timing in default on service obligations and of incurring loans under the Health Education Assistance Loan (HEAL) program as opposed to other loan sources. The growing educational debt of today's medical students foreshadows continued litigation in this area. Author-abstract.
- MJ EDUCATION-MEDICAL-UNDERGRADUATE: legislation-and-jurisprudence (lj). STUDENTS-MEDICAL: legislation-and-jurisprudence (lj). TRAINING-SUPPORT: legislation-and-jurisprudence (lj).

MN EDUCATION-MEDICAL-UNDERGRADUATE: economics (ec). HUMAN.
MEDICALLY-UNDERSERVED-AREA. TRAINING-SUPPORT: economics (ec).
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910315.

172

AN 91109845. 91000.
AU Gwyther-R-E. Bentz-E-J. Marquardt-M. Olson-P-R.
IN Department of Family Medicine, University of North Carolina, Chapel
Hill.
TI Practice trends among graduates of two family practice residency
programs in North Carolina.
SO N-C-Med-J. 1990 Dec. 51(12). P 653-7.
JT NORTH CAROLINA MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FAMILY-PRACTICE. INTERNSHIP-AND-RESIDENCY.
PROFESSIONAL-PRACTICE.
MN CURRICULUM. FAMILY-PRACTICE: education (ed), trends (td). FEMALE.
HOSPITALS-COMMUNITY. HOSPITALS-TEACHING. HUMAN. JOB-SATISFACTION.
MALE. *MEDICALLY-UNDERSERVED-AREA.* NORTH-CAROLINA.
PRIVATE-PRACTICE. PROFESSIONAL-PRACTICE: trends (td).
PROFESSIONAL-PRACTICE-LOCATION.
YR 1990.
IS 0029-2559. NTX.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910226.

173

AN 91103854. 91000.
AU Bullough-C-H.
TI More community obstetricians are needed `letter:.
SO World-Health-Forum. 1990. 11(2). P 206-7.
JT WORLD HEALTH FORUM.
PT LETTER (LET).
LG English (EN).
MJ COMMUNITY-HEALTH-SERVICES: manpower (ma).
MEDICALLY-UNDERSERVED-AREA. OBSTETRICS.
MN HUMAN.
YR 1990.
IS 0251-2432. AD2.
CP SWITZERLAND (Z1.542.883).
IM 9105.
ND ENTRY DATE: 910227.

174

AN 91098519. 91000.
AU Myhal-D.
TI Why won't doctors go where they are needed? `letter:.
SO Can-Med-Assoc-J. 1991 Jan 15. 144(2). P 116.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ PHYSICIANS: supply-and-distribution (sd).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* SASKATCHEWAN.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 9104.
ND ENTRY DATE: 910215.

175

AN 91095213. 91000.
AU Lederman-R-P.
IN University of Texas School of Nursing, Galveston.
TI Professional liability and obstetrical health care delivery.
SO Nurs-Outlook. 1991 Jan-Feb. 39(1). P 14-7.
JT NURSING OUTLOOK.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Nurse-midwives are finding liability insurance either prohibitively expensive or simply unavailable--despite the fact that, in contrast to obstetricians, they are rarely sued. As a consequence, maternal health services for rural and poor women are rapidly disappearing. Author-abstract.
MJ INSURANCE-LIABILITY: economics (ec). LIABILITY-LEGAL.
NURSE-MIDWIVES: economics (ec). OBSTETRICAL-NURSING: economics (ec). RURAL-HEALTH.
MN FEMALE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PREGNANCY. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing Journals (N).
YR 1991.
IS 0029-6554. 09H.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910212.

176

AN 91090998. 91000.
AU Tauke-T.
TI The National Health Service Corps: new opportunities for nurses on

the horizon.

SO J-Am-Acad-Nurse-Pract. 1990 Oct-Dec. 2(4). P 170-1.
JT JOURNAL OF THE AMERICAN ACADEMY OF NURSE PRACTITIONERS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-POLICY: legislation-and-jurisprudence (lj).
MEDICALLY-UNDERSERVED-AREA. NURSE-PRACTITIONERS: education (ed).
TRAINING-SUPPORT: legislation-and-jurisprudence (lj).
MN HUMAN.
SB Nursing Journals (N).
LI N.
YR 1990.
IS 1041-2972. ASE.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910214.

177

AN 91086051. 91000.
AU Wheeler-M.
TI Orthopedist shortage continues.
SO Iowa-Med. 1990 Oct. 80(10). P 471-2.
JT IOWA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* ORTHOPEDICS: manpower (ma).
MN HUMAN. IOWA. ORTHOPEDICS: standards (st). PERSONNEL-SELECTION.
SOCIETIES-MEDICAL.
YR 1990.
IS 0746-8709. GWQ.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910207.

178

AN 91084737. 91000.
AU Rafuse-J.
TI Northern towns put out welcome mat for Ontario medical students.
SO Can-Med-Assoc-J. 1991 Jan 1. 144(1). P 68-9.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONSUMER-PARTICIPATION. *MEDICALLY-UNDERSERVED-AREA.*
PERSONNEL-SELECTION: methods (mt). STUDENTS-MEDICAL.
MN HUMAN. MOTIVATION. ONTARIO. PERSONNEL-TURNOVER.
TRAINING-SUPPORT.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0008-4409. CKW.

CP CANADA (Z1.107.567.176).
IM 9104.
ND ENTRY DATE: 910204.

179

AN 91080786. 91000.
AU Tompkins-R-B.
TI An office of rural health. A focal point for rural health concerns.
SO Minn-Med. 1990 Nov. 73(11). P 45-6.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ RURAL-HEALTH: trends (td).
MN HEALTH-CARE-COALITIONS: trends (td). HUMAN.
MEDICALLY-UNDERSERVED-AREA. MINNESOTA.
YR 1990.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910131.

180

AN 91069385. 91000.
AU Donohoe-E-A.
IN Intergovernmental Health Policy Project, George Washington University, Washington, D.C. 20006.
TI Physician distribution and rural health care in the states. Part 1--An overview of state legislative activity, 1984-1989.
SO Acad-Med. 1990 Dec. 65(12 Suppl). P S92-102.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DELIVERY-OF-HEALTH-CARE: legislation-and-jurisprudence (lj).
MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH: trends (td).
MN EDUCATION-MEDICAL: economics (ec). FAMILY-PRACTICE. HUMAN. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9103.
ND ENTRY DATE: 910118.

181

AN 91069381. 91000.
AU Weaver-D-L.
IN National Health Service Corps, Department of Health and Human Services, Rockville, Maryland 20857.
TI The National Health Service Corps: a partner in rural medical education.

SO Acad-Med. 1990 Dec. 65(12 Suppl). P S43-4.

JT ACADEMIC MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Within the United States Public Health Service, the programs of the Bureau of Health Care Delivery and Assistance have played an important role in improving access to primary care services in rural America. In part, this has been accomplished through the administration of grants to assist in establishing systems of care and the assignment of National Health Service Corps (NHSC) health professionals. From a peak of over 1,600 NHSC-obligated scholarship recipients available for service in 1985, the number of available obligated practitioners has decreased to around 120 in 1990. A main focus of the NHSC has, therefore, necessarily changed from the placement of obligated health professionals to the recruitment of volunteers and increased emphasis on the retention of current providers. The systems of care that have been most successful in their retention efforts have been: group practices, composed of a nucleus of individuals who had been at the site for three to five years; community-oriented, utilizing non-physician providers as part of the delivery team; and those committed to continued provider education. The NHSC has initiated programs to help increase the likelihood that medical students will choose a primary care career and spend all or part of that career serving those most in need. These programs include the National Medical Association Minority Mentor Network, the American Medical Student Association Health Promotion/Disease Prevention Program, the Commissioned Officer Student Training and Externship Program, and the American Academy of Family Physicians Residency Advocate Program. To meet the future needs for access to care in rural America, partnerships with academic centers must be enhanced and expanded. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH.

MN EDUCATION-MEDICAL: economics (ec). HUMAN. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.

IS 1040-2446. ACM.

CP UNITED-STATES (Z1.107.567.875).

IM 9103.

ND ENTRY DATE: 910118.

182

AN 91069380. 91000.

AU Langford-T-L.

IN School of Nursing, Texas Tech University Health Sciences Center,
Lubbock 79430.

TI Rural health care--in the "future perfect".

SO Acad-Med. 1990 Dec. 65(12 Suppl). P S40-2.

JT ACADEMIC MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Rural health care can thrive if innovative tactics are used. Four assumptions can influence how health care occurs in rural areas. One assumption is to view the world in a "both/and" view of human phenomena. Second is to recognize that competition is a dominant mode; and that using integrative/collaborative solutions could enhance all health care. Cultural ethnocentricity and professional ethnocentricity, the third assumption, are counterproductive. This is especially true in rural America. The fourth assumption, one can only accomplish what one can imagine, sets an infinite range of possibilities for rural health care. Education must change to incorporate a commitment to collaboration and to integrative, innovative solutions to problems. Author-abstract.

MJ DELIVERY-OF-HEALTH-CARE: trends (td). RURAL-HEALTH: trends (td).

MN HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN.

MEDICALLY-UNDERSERVED-AREA. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1990.

IS 1040-2446. ACM.

CP UNITED-STATES (Z1.107.567.875).

IM 9103.

ND ENTRY DATE: 910118.

183

AN 91069379. 91000.

AU Holden-D-M.

IN Department of Family Medicine, State University of New York, Buffalo 14215.

TI Rural practice modes.

SO Acad-Med. 1990 Dec. 65(12 Suppl). P S32-40.

JT ACADEMIC MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Solo practice is the dominant mode of rural medical care delivery. At the same time, it is the most likely not to succeed, because the solo physician is choosing to leave the rural community. Group family practice is the most stable form of rural practice, is acceptable, and is sought by the majority of family practice residents seeking to establish new practices. Characteristics of successful rural practices include group practice, retention of the same health care providers for more than three years, a community-oriented focus, integration of non-M.D. health care providers, and a commitment to education within the practice. Academic medical centers with area health education centers (AHECs) should consider developing expanded AHECs to provide the education, planning, consultation, and expertise now needed by rural communities. Academic medical centers without AHECs should consider creating offices of rural health to provide the education, planning, consultation, and expertise needed in rural communities. Author-abstract.

MJ COMMUNITY-HEALTH-CENTERS: organization-and-administration (og).

GROUP-PRACTICE: organization-and-administration (og).
HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). PARTNERSHIP-PRACTICE:
organization-and-administration (og). RURAL-HEALTH.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9103.
ND ENTRY DATE: 910118.

184

AN 91069378. 91000.
AU Vanselow-N-A.
IN Tulane University Medical Center, Office of the Chancellor, New
Orleans, LA 70112.
TI Medical education and the rural health crisis: a personal perspective
from experiences in five states.
SO Acad-Med. 1990 Dec. 65(12 Suppl). P S27-31.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB While there is good evidence that decisions regarding practice site
are influenced by experience in medical school and residency, medical
education constitutes only one of a complex set of factors that have
made it difficult to recruit physicians to rural America. A solution
to the rural health crisis will require not only changes in student
selection, curriculum, and training location, but also strengthening
of the rural economy, improved reimbursement to rural hospitals and
primary care physicians, and increased sensitivity by leaders of the
medical profession to the needs of rural areas and rural
practitioners. Author-abstract.
MJ ATTITUDE-OF-HEALTH-PERSONNEL. DELIVERY-OF-HEALTH-CARE: methods (mt).
MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH.
MN HUMAN. INTERNSHIP-AND-RESIDENCY. PROFESSIONAL-PRACTICE-LOCATION.
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9103.
ND ENTRY DATE: 910118.

185

AN 91069374. 91000.
AU Kindig-D-A.
IN Department of Preventive Medicine, University of Wisconsin/Madison
School, Medicine 53706.
TI Policy priorities for rural physician supply.
SO Acad-Med. 1990 Dec. 65(12 Suppl). P S15-7.

JT ACADEMIC MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A number of efforts can be attempted in rural medical education initiatives in recruitment, socialization, curricular reform, and community technical assistance. Further work is needed in identifying strategies that are most appropriate and cost effective in different states and regions that may have different situations and needs. Careful consideration needs to be given to reasons why such ideas have not moved beyond the demonstration stage over the past 20 years; it is suggested that without substantial reform of payment systems favoring rural and primary care, educational reform will have marginal effectiveness and remain at the demonstration level. Author-abstract.
 MJ HEALTH-POLICY. HEALTH-PRIORITIES. *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH.
 MN EDUCATION-MEDICAL-UNDERGRADUATE: economics (ec). HUMAN. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1990.
 IS 1040-2446. ACM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9103.
 ND ENTRY DATE: 910118.

186

AN 91069373. 91000.
 AU Donohoe-E-A.
 IN Intergovernmental Health Policy Project, George Washington University, Washington, D.C. 20006.
 TI Physician distribution and rural health care in the states. Part 2--State legislative summaries addressing physician distribution and rural health care, 1984-1989.
 SO Acad-Med. 1990 Dec. 65(12 Suppl). P S102-13.
 JT ACADEMIC MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ DELIVERY-OF-HEALTH-CARE: legislation-and-jurisprudence (lj). FELLOWSHIPS-AND-SCHOLARSHIPS: legislation-and-jurisprudence (lj). RURAL-HEALTH: trends (td).
 MN EDUCATION-MEDICAL: economics (ec). HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1990.
 IS 1040-2446. ACM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9103.
 ND ENTRY DATE: 910118.

187

AN 91069372. 91000.
 AU Bruce-T-A.
 IN W. K. Kellogg Foundation, Battle Creek, MI 49017-3398.
 TI Physicians for the American homelands.
 SO Acad-Med. 1990 Dec. 65(12 Suppl). P S10-4.
 JT ACADEMIC MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Academic health centers in the United States are in danger of becoming more and more irrelevant to the non-tertiary, primary health care needs of modern society. This paper explores options to respond to one segment that repeatedly has been demonstrated to be in distress: rural health care. Recommendations are made about selective recruitment into medical and other health schools to address the issue, early professional socialization, curricular reform, and the types of technical assistance that academic centers might well provide to rural practitioners and caregiver institutions. Author-abstract.
 MJ ACADEMIC-MEDICAL-CENTERS: trends (td).
 EDUCATION-MEDICAL-UNDERGRADUATE: trends (td). RURAL-HEALTH: trends (td).
 MN ARKANSAS. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
 PROFESSIONAL-PRACTICE-LOCATION: trends (td). SPECIALTIES-MEDICAL: education (ed). UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1990.
 IS 1040-2446. ACM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9103.
 ND ENTRY DATE: 910118.

188

AN 91069349. 91000.
 AU Whitcomb-M-E. Myers-W-W.
 IN Department of Medicine, University of Washington School of Medicine, Seattle 98195.
 TI Physician manpower for rural America: summary of a WAMI region conference.
 SO Acad-Med. 1990 Dec. 65(12). P 729-32.
 JT ACADEMIC MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Although legislators have intermittently focused their attention on physician manpower issues, the needs of rural America for physicians remain unmet. These needs will not be met unless there is an adequate supply of physicians receptive to and appropriately trained for the challenges and opportunities of practice in a rural community. A declining interest by matriculating and graduating medical students in primary care practice makes it problematic that the needs of rural America can be met in the near future unless

medical schools attempt to reverse the trends in medical students' specialty choices. In October 1989, the University of Washington School of Medicine conducted a working conference on physician manpower issues facing rural communities in Washington, Alaska, Montana, and Idaho. The discussions and conclusions of this conference about increasing the percentage of graduates entering rural practice apply to other regions of the country, and this paper summarizes the conference's recommendations. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH.
MN DELIVERY-OF-HEALTH-CARE. FAMILY-PRACTICE. HUMAN. SCHOOLS-MEDICAL.
UNITED-STATES. WASHINGTON.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1990.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9103.
ND ENTRY DATE: 910118.

189

AN 91035159. 91000.
AU Wilson-I-D.
IN College of Medicine, University of Arkansas for Medical Sciences,
Little Rock.
TI Rural health care: an Arkansas crisis for the millennium?
SO J-Ark-Med-Soc. 1990 Sep. 87(4). P 148-9.
JT JOURNAL OF THE ARKANSAS MEDICAL SOCIETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FAMILY-PRACTICE: trends (td). HEALTH-SERVICES-ACCESSIBILITY: trends
(td). PRIMARY-HEALTH-CARE: manpower (ma). RURAL-HEALTH: trends
(td).
MN ARKANSAS. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
YR 1990.
IS 0004-1858. HEV.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901210.
CLASS UPDATE: 92.

190

AN 90381985. 90000.
AU Buekens-P.
TI Variations in provision and uptake of antenatal care.
SO Baillieres-Clin-Obstet-Gynaecol. 1990 Mar. 4(1). P 187-205.
JT BAILLIERES CLINICAL OBSTETRICS AND GYNAECOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Antenatal care providers vary from one country to another. In Europe, most of the care is provided by obstetricians in some countries, while the role of midwives is important in other

countries. Many women are attended by general practitioners in Canada and, to a lesser extent, in the US. Involvement of traditional birth attendants in antenatal care in more than 5% of the pregnancies has been reported in Guatemala, Honduras and Mexico only. Several indicators may be used to measure the utilization of antenatal care: the percentage of women receiving care, timing of the first visit, proportion of women receiving late or no care, number of visits and indexes of adequacy of antenatal care. Recent world data are provided. The percentage of women receiving antenatal care is higher than 90% in many countries, including some developing countries. However, the proportion of women with late or no care is increasing in the US. Women of low sociodemographic status are at high risk of having inadequate care. Financial barriers play a major role. Inadequate system capacity, distance, long waiting time, lack of child care and differences in culture, attitude and knowledge are other important barriers. Improving the services and outreach of non-participating women may both increase the utilization of antenatal care. Overutilization should also be a matter of concern. It could be better addressed by decreasing the recommended number of visits than by requesting payment of a part of the costs by the users. Author-abstract. 94 Refs.

MJ HEALTH-SERVICES-ACCESSIBILITY: standards (st). PRENATAL-CARE: utilization (ut).
 MN CULTURAL-CHARACTERISTICS. FEMALE. HEALTH-SERVICES-ACCESSIBILITY: economics (ec). HUMAN. KNOWLEDGE-ATTITUDES-PRACTICE.
 MEDICALLY-UNDERSERVED-AREA. PREGNANCY. PRENATAL-CARE: manpower (ma), standards (st). SOCIOECONOMIC-FACTORS.
 SB Priority Journals (M).
 YR 1990.
 IS 0950-3552. DFO.
 CP ENGLAND (Z1.542.363.300).
 IM 9012.
 ND ENTRY DATE: 901019.
 CLASS UPDATE: 90.

191

AN 90377043. 90000.
 AU Meyer-H.
 TI Rural America. Surmounting the obstacles to mental health care.
 SO Minn-Med. 1990 Aug. 73(8). P 24-31.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-MENTAL-HEALTH-SERVICES: trends (td).
 MEDICALLY-UNDERSERVED-AREA. MENTAL-DISORDERS: therapy (th).
 REFERRAL-AND-CONSULTATION: trends (td). RURAL-HEALTH: trends (td).
 MN HEALTH-SERVICES-ACCESSIBILITY: trends (td). HUMAN. MINNESOTA.
 YR 1990.
 IS 0026-556X. NBY.
 CP UNITED-STATES (Z1.107.567.875).

IM 9012.
ND ENTRY DATE: 901015.

192

AN 90368180. 90000.
AU Poullose-K-P. Natarajan-P-K.
TI Re-orientation of medical education in India past, present and future.
SO Indian-J-Public-Health. 1989 Apr-Jun. 33(2). P 55-8.
JT INDIAN JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DEVELOPING-COUNTRIES. EDUCATION-MEDICAL: trends (td).
MEDICALLY-UNDERSERVED-AREA. RURAL-HEALTH: trends (td).
MN CURRICULUM. FORECASTING. HUMAN.
YR 1989.
IS 0019-557X. GLN.
CP INDIA (Z1.252.245.393).
IM 9012.
ND ENTRY DATE: 901005.

193

AN 90357036. 90000.
AU Kloos-H.
IN Department of Geography, Addis Ababa University, Ethiopia.
TI Utilization of selected hospitals, health centres and health stations in central, southern and western Ethiopia.
SO Soc-Sci-Med. 1990. 31(2). P 101-14.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This first, extensive, facility-based study of health services utilization in central, southern and western Ethiopia reveals steep distance decay gradients and underutilization of rural health services, the result of numerous geographical, socioeconomic, cultural and facility-based barriers. Out-patients statistics of 280,656 first-visit polyclinic patients in 8 hospitals, 8 health centres and 9 health stations in 7 administrative regions and of 10,885 sick children, 7767 antenatal attendants, 902 family planning acceptors, 275 vaccinated children and mothers and 1066 free patients, as well as in-patient statistics of 11,221 patients in 5 hospitals were analysed to determine catchment areas and utilization rates. On the average, 46% of the polyclinic patients were residents of the same town or village, 39% of the same awraja (district) and 5% of other administrative regions. Sick children, family planning attendants, free patients and in-patients lived relatively nearer to health facilities than polyclinic out-patients. Interviews with polyclinic out-patients showed that type and cost of transportation, type of illness, patient preferences, socioeconomic status of patients and referral patterns were important factors in utilization.

Aggregation of all available health services data indicates that whereas some towns approach the targeted 2.5 per capita patient visits per year, coverage of the rural population is relatively low. Suggestions are made on how to overcome the problem of underutilization of rural health stations and to improve the health services information system. Author-abstract.

MJ HEALTH-SERVICES: utilization (ut).

MN CATCHMENT-AREA-HEALTH. COMMUNITY-HEALTH-SERVICES: utilization (ut). DELIVERY-OF-HEALTH-CARE: standards (st). ETHIOPIA. HEALTH-PLANNING: organization-and-administration (og). HEALTH-SERVICES-ACCESSIBILITY. HOSPITALS: utilization (ut). HOSPITALS-RURAL: utilization (ut). HUMAN. MATERNAL-CHILD-HEALTH-CENTERS: utilization (ut). *MEDICALLY-UNDERSERVED-AREA.* PRIMARY-HEALTH-CARE: utilization (ut). RURAL-POPULATION. UTILIZATION-REVIEW.

SB Priority Journals (M).

YR 1990.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 9011.

ND ENTRY DATE: 900926.

CLASS UPDATE: 90.

194

AN 90342796. 90000.

AU Shore-M-F.

TI The loss of a generation `editorial:.

SO Am-J-Orthopsychiatry. 1990 Jul. 60(3). P 322.

JT AMERICAN JOURNAL OF ORTHOPSYCHIATRY.

PT EDITORIAL (EDI).

LG English (EN).

MJ EDUCATION-MEDICAL: economics (ec). FINANCING-GOVERNMENT: legislation-and-jurisprudence (lj). MEDICAL-INDIGENCY: economics (ec). *MEDICALLY-UNDERSERVED-AREA.* PSYCHIATRY: education (ed).

MN HUMAN. UNITED-STATES.

SB Priority Journals (M).

YR 1990.

IS 0002-9432. 3R6.

CP UNITED-STATES (Z1.107.567.875).

IM 9011.

ND ENTRY DATE: 900912.

CLASS UPDATE: 91.

195

AN 90332854. 90000.

AU Remschmidt-H. Walter-R. Warnke-A.

IN Klinik und Poliklinik für Kinder- und Jugendpsychiatrie, Philips-Universität, Marburg.

TI `Concept and services provided by a mobile pediatric and adolescent psychiatric service in a rural area:.

TT Konzeption und Versorgungsleistung eines mobilen kinder- und

jugendpsychiatrischen Dienstes auf dem Land.
 SO Psychiatr-Prax. 1990 May. 17(3). P 99-106.
 JT PSYCHIATRISCHE PRAXIS.
 PT JOURNAL-ARTICLE (ART).
 LG German (GE).
 AB A mobile child and youth psychiatric service is presented that concerned with the mental health care of a county with a population of 239,000 inhabitants. This kind of service was conceived especially to meet the demands of rural regions which are high, as empirical investigations about administrative and real prevalence have shown. The hypothesis that child and youth psychiatric or other specialized institutions create demands not normally existing, could be refuted. The service proved to be an efficient model for mental health care in rural regions so that it can be looked upon--especially in areas which are not sufficiently provided with child psychiatric institutions--as a fully valid alternative to other kinds of mental health services. Still, there is the problem of financing, which is not yet completely solved. A standardized regulation for the whole Federal Republic is suggested with the participation of the health insurance funds. Author-abstract.
 MJ CHILD-BEHAVIOR-DISORDERS: therapy (th).
 COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration (og). MENTAL-DISORDERS: therapy (th). MOBILE-HEALTH-UNITS: organization-and-administration (og). PSYCHOPHYSIOLOGIC-DISORDERS: therapy (th). RURAL-HEALTH: trends (td).
 MN ADOLESCENCE. CHILD. ENGLISH-ABSTRACT. FEMALE. GERMANY-WEST. HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN. MALE. *MEDICALLY-UNDERSERVED-AREA.* REFERRAL-AND-CONSULTATION: organization-and-administration (og).
 SB Priority Journals (M).
 YR 1990.
 IS 0303-4259. QCK.
 CP GERMANY-WEST (Z1.542.315.570).
 IM 9011.
 ND ENTRY DATE: 900904.
 CLASS UPDATE: 90.

196

AN 90331838. 90000.
 AU Kamien-M. Buttfield-I-H.
 IN Department of General Practice, University of Western Australia, Claremont.
 TI Some solutions to the shortage of general practitioners in rural Australia. Part 4. Professional, social and economic satisfaction.
 SO Med-J-Aust. 1990 Aug 6. 153(3). P 168-71.
 JT MEDICAL JOURNAL OF AUSTRALIA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *MEDICALLY-UNDERSERVED-AREA.* PERSONAL-SATISFACTION. PHYSICIANS-FAMILY: supply-and-distribution (sd). RURAL-POPULATION.

MN AUSTRALIA. FINANCIAL-MANAGEMENT. HUMAN. INCOME.
INTERPROFESSIONAL-RELATIONS. PHYSICIAN-PATIENT-RELATIONS.
PROFESSIONAL-PRACTICE. SOCIAL-ENVIRONMENT.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0025-729X. M26.
CP AUSTRALIA (Z1.338).
IM 9011.
ND ENTRY DATE: 900906.

197

AN 90331119. 90000.
AU Ritley-D. Bodenhorn-K.
TI The National Health Service Corps' rollercoaster ride (1970-1990).
SO J-Pediatr-Health-Care. 1990 Jul-Aug. 4(4). P 216-8.
JT JOURNAL OF PEDIATRIC HEALTH CARE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ECONOMICS-MEDICAL: trends (td). LEGISLATION-MEDICAL: trends (td).
MEDICALLY-UNDERSERVED-AREA.
MN EDUCATION-NURSING: economics (ec). HUMAN. TRAINING-SUPPORT:
economics (ec). UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1990.
IS 0891-5245. JML.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900906.

198

AN 90309649. 90000.
AU Kamien-M. Buttfield-I-H.
IN Department of General Practice, University of Western Australia,
Claremont.
TI Some solutions to the shortage of general practitioners in rural
Australia. Part 3. Vocational training `see comments:.
CM Comment in: Med J Aust 1990 Oct 15;153(8):501. Comment in: Med J
Aust 1990 Nov 5;153(9):565.
SO Med-J-Aust. 1990 Jul 16. 153(2). P 112-4.
JT MEDICAL JOURNAL OF AUSTRALIA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-MEDICAL-GRADUATE: trends (td). *MEDICALLY-UNDERSERVED-AREA.*
PHYSICIANS-FAMILY: supply-and-distribution (sd). RURAL-POPULATION.
MN AUSTRALIA. HUMAN. PHYSICIANS-FAMILY: education (ed).
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0025-729X. M26.
CP AUSTRALIA (Z1.338).

IM 9010.
ND ENTRY DATE: 900814.
LAST REVISION DATE: 920416.

199

AN 90309648. 90000.
AU Kamien-M. Buttfield-I-H.
IN Department of General Practice, University of Western Australia,
Claremont.
TI Some solutions to the shortage of general practitioners in rural
Australia. Part 2. Undergraduate education `see comments:.
CM Comment in: Med J Aust 1990 Nov 5;153(9):565.
SO Med-J-Aust. 1990 Jul 16. 153(2). P 107-8, 112.
JT MEDICAL JOURNAL OF AUSTRALIA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-MEDICAL-UNDERGRADUATE: trends (td).
MEDICALLY-UNDERSERVED-AREA. PHYSICIANS-FAMILY:
supply-and-distribution (sd). RURAL-POPULATION.
MN AUSTRALIA. HUMAN. PHYSICIANS-FAMILY: education (ed).
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0025-729X. M26.
CP AUSTRALIA (Z1.338).
IM 9010.
ND ENTRY DATE: 900814.
LAST REVISION DATE: 920416.

200

AN 90309647. 90000.
AU Kamien-M. Buttfield-I-H.
IN Department of General Practice, University of Western Australia,
Claremont.
TI Some solutions to the shortage of general practitioners in rural
Australia. Part 1. Medical school selection `see comments:.
CM Comment in: Med J Aust 1990 Nov 5;153(9):565.
SO Med-J-Aust. 1990 Jul 16. 153(2). P 105-7.
JT MEDICAL JOURNAL OF AUSTRALIA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-MEDICAL. EDUCATIONAL-MEASUREMENT.
MEDICALLY-UNDERSERVED-AREA. PHYSICIANS-FAMILY:
supply-and-distribution (sd). RURAL-POPULATION.
SCHOOL-ADMISSION-CRITERIA.
MN AUSTRALIA. HUMAN. PHYSICIANS-FAMILY: education (ed).
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0025-729X. M26.
CP AUSTRALIA (Z1.338).
IM 9010.

ND ENTRY DATE: 900814.
LAST REVISION DATE: 920416.
CLASS UPDATE: 90.

201

AN 90282855. 90000.
AU Lekagul-S.
TI Ears to hear `interview:.
SO World-Health-Forum. 1989. 10(3-4). P 374-80.
JT WORLD HEALTH FORUM.
PT INTERVIEW (INT).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* OTOLARYNGOLOGY:
organization-and-administration (og). RURAL-POPULATION.
MN EAR-MIDDLE: surgery (su). HEALTH-EDUCATION. HEARING-DISORDERS:
prevention-and-control (pc).HUMAN. OTOLARYNGOLOGY: manpower (ma).
THAILAND.
YR 1989.
IS 0251-2432. AD2.
CP SWITZERLAND (Z1.542.883).
IM 9009.
ND ENTRY DATE: 900726.
CLASS UPDATE: 92.

202

AN 90260822. 90000.
AU Siegel-C-H.
IN Office of the Deputy Commissioner, Texas Higher Education
Coordinating Board, Austin 78711.
TI The Texas Family Practice Residency Program: a profile.
SO Tex-Med. 1990 May. 86(5). P 65-8.
JT TEXAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In 1977, the 65th Texas Legislature created the Texas Family Practice
Residency Program to encourage the training of family physicians and
to improve access to health care in *medically* *underserved* areas.
During the past 12 years, the number of family practice residency
programs has grown from 12 to 25, with 1,174 graduates as of
September 1988. This article discusses the program's origins,
administration, effectiveness, and future. Author-abstract.
MJ FAMILY-PRACTICE: education (ed). INTERNSHIP-AND-RESIDENCY.
MN FAMILY-PRACTICE: organization-and-administration (og), trends (td).
FORECASTING. HUMAN. INTERNSHIP-AND-RESIDENCY:
organization-and-administration (og), trends
(td).MEDICALLY-UNDERSERVED-AREA. TEXAS.
YR 1990.
IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.

ND ENTRY DATE: 900625.

203

AN 90245808. 90000.

AU Tyryltin-M-A.

TI `Social factors and their effect on the epidemiology of tuberculosis in the Far North areas:.

TT Sotsial'nye faktory i ikh vliianie na epidemiologiiu tuberkuleza v raionakh Krainego Severa.

SO Probl-Tuberk. 1990. (1). P 12-6.

JT PROBLEMY TUBERKULEZA.

PT JOURNAL-ARTICLE (ART).

LG Russian (RS).

AB Though in the Far North areas there is a decrease in the epidemic causes of tuberculosis, one can observe a greater role of negative social and sanitary factors influencing its morbidity. In the pattern of factors predisposing to newly diagnosed cases of the disease, unsatisfactory housing and living conditions as well as unqualified physical labour performed under unfavourable production and extreme climatic conditions, which are often combined with hazardous habits and concomitant diseases, are becoming more common. Higher tuberculosis morbidity among the aboriginal population with lower rates of their contamination are directly related to the level of their social and sanitary conditions, traditional way of life, occupational activities and disadvantages in the social development of the areas of their preferential habitation. In this connection, while taking further steps against tuberculosis in the Far North areas, it seems necessary to intensify social and preventive measures as well as antituberculous care of the groups which are influenced by clearly negative social and sanitary factors. Author-abstract.

MJ SOCIOECONOMIC-FACTORS. TUBERCULOSIS: epidemiology (ep).

MN ADULT. ARCTIC-REGIONS. CHILD. COLD-CLIMATE: adverse-effects (ae). COMPARATIVE-STUDY. ENGLISH-ABSTRACT. FEMALE. HUMAN. MALE. *MEDICALLY-UNDERSERVED-AREA.* MEDICINE-TRADITIONAL. RUSSIA. TRANSIENTS-AND-MIGRANTS. TUBERCULOSIS: ethnology (eh), etiology (et).

YR 1990.

IS 0032-9533. PQE.

CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).

IM 9008.

ND ENTRY DATE: 900613.

CLASS UPDATE: 92.

204

AN 90245126. 90000.

AU Nguyenlehiu-B-S.

TI Physician manpower in rural Nebraska.

SO Nebr-Med-J. 1990 Apr. 75(4). P 67-8.

JT NEBRASKA MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH: trends (td).
MN HUMAN. NEBRASKA.
YR 1990.
IS 0091-6730. NU0.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900614.

205

AN 90241116. 90000.
AU Lindsay-J.
TI Survey of the number of psychiatrists `letter; comment:.
CM Comment on: Aust N Z J Psychiatry 1988 Dec;22(4):436-47.
SO Aust-N-Z-J-Psychiatry. 1990 Mar. 24(1). P 14-5.
JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY.
PT COMMENT (COM). LETTER (LET).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* PROFESSIONAL-PRACTICE: trends (td).
PROFESSIONAL-PRACTICE-LOCATION: trends (td). PSYCHIATRY: manpower
(ma). RURAL-HEALTH: trends (td).
MN AUSTRALIA. HUMAN.
SB Priority Journals (M).
YR 1990.
IS 0004-8674. 9I6.
CP AUSTRALIA (Z1.338).
IM 9008.
ND ENTRY DATE: 900605.
LAST REVISION DATE: 900904.
CLASS UPDATE: 91.

206

AN 90238128. 90000.
AU Pinn-Wiggins-V-W.
IN Department of Pathology, Howard University College of Medicine,
Washington, DC 20059.
TI Comments from the National Medical Association concerning a "white
paper" on proposed strategies for fulfilling primary care manpower
needs.
SO J-Natl-Med-Assoc. 1990 Apr. 82(4). P 245-8.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The NMA has long had the participation and leadership of those in
primary care and those who practice in *medically* *underserved* or
medically indigent areas. We, therefore, are most supportive of the
objectives and goals you have presented. We have offered suggestions
to strengthen your "White Paper" by emphasizing the vital nature of
the current and future role of primary health care delivery; by
stating the effects that changes in physician reimbursement,

especially utilizing the Relative Value Scale, will have on the expectations of those who are considering primary care; by continuing to offer scholarship assistance and loan forgiveness to those who are willing to commit during their medical education to a primary care career through the NHSC; by making a priority the effort to recruit older physicians by providing well-defined incentives, including liability relief; and by emphasizing the continued recruitment, retention, and encouragement of minority and disadvantaged applicants entering health care careers and stressing the support they must receive to be able to afford to practice in *underserved* areas. The National Medical Association welcomes the chance to undertake any collaborative efforts which may aid our mutual missions. Therefore, we are willing to assist you in helping to solve the critical need for primary care physicians in *medically* *underserved* communities. Author-abstract.

MJ BLACKS. DELIVERY-OF-HEALTH-CARE. PRIMARY-HEALTH-CARE: manpower (ma). WHITES.
MN HUMAN. SOCIETIES-MEDICAL. UNITED-STATES.
YR 1990.
IS 0027-9684. J9Z.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900605.

207

AN 90233930. 90000.
AU Griffen-W-O Jr.
TI A National Health Service `see comments:.
CM Comment in: Arch Surg 1990 Sep;125(9):1224.
SO Arch-Surg. 1990 May. 125(5). P 573-4.
JT ARCHIVES OF SURGERY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NATIONAL-HEALTH-INSURANCE-UNITED-STATES.
MN EDUCATION-MEDICAL. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0004-0010. 8IA.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900531.
LAST REVISION DATE: 910220.

208

AN 90211576. 90000.
AU Hussain-P.
IN Queen Elizabeth Military Hospital, Woolwich, London.
TI Use of ultrasound in Nepal.

SO Radiogr-Today. 1990 Jan. 56(632). P 13-5.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Although for a Third World country like Nepal the provision of an ultrasound machine may represent a considerable capital outlay, once installed it is a versatile diagnostic tool, non-invasive, relatively inexpensive to run and requiring very little patient preparation and no in-patient beds. Ultrasound, in the hands of a skilled ultrasonographer, can provide immediate, accurate and invaluable diagnostic information to the clinicians in a range of bizarre and advanced clinical conditions. Author-abstract.

MJ DEVELOPING-COUNTRIES. *MEDICALLY-UNDERSERVED-AREA.* ULTRASONOGRAPHY: utilization (ut).

MN ADOLESCENCE. BILIARY-TRACT-DISEASES: diagnosis (di). FEMALE. HUMAN. MALE. NEPAL. PATIENT-ACCEPTANCE-OF-HEALTH-CARE. TUBERCULOSIS: diagnosis (di).

SB Priority Journals (M).

YR 1990.

IS 0954-8211. AFQ.

CP ENGLAND (Z1.542.363.300).

IM 9007.

ND ENTRY DATE: 900517.

CLASS UPDATE: 90.

209

AN 90205080. 90000.

TI Providing medical services through school-based health programs. Council on Scientific Affairs.

SO J-Sch-Health. 1990 Mar. 60(3). P 87-91.

JT JOURNAL OF SCHOOL HEALTH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Resolution 162, which was adopted at the 1987 Annual Meeting by the Board of Trustees, called on the American Medical Association to study the efficacy of school-based health clinics. Recent data show that a significant number of school-aged youth are in need of an adequate source of health care. School-based health programs constitute a promising avenue for providing health services to adolescents, particularly in *medically* *underserved* areas. Although there are insufficient data to support universal establishment of school-based health programs, small-scale studies suggest that such programs are a viable means to increase access to health care for youth. Author-abstract.

MJ HEALTH-SERVICES-NEEDS-AND-DEMAND. HEALTH-SERVICES-RESEARCH. PRIMARY-HEALTH-CARE: organization-and-administration (og). SCHOOL-HEALTH-SERVICES: organization-and-administration (og).

MN ADOLESCENCE. AMERICAN-MEDICAL-ASSOCIATION. HEALTH-SERVICES-ACCESSIBILITY. HUMAN. MASS-SCREENING. SCHOOL-HEALTH-SERVICES: legislation-and-jurisprudence (lj), standards (st). UNITED-STATES.

SB Priority Journals (M). Nursing Journals (N).
YR 1990.
IS 0022-4391. K13.
CP UNITED-STATES (Z1.107.567.875).
IM 9007.
ND ENTRY DATE: 900502.
CLASS UPDATE: 90.

210

AN 90204116. 90000.
AU Alexander-J-R.
TI The challenge of rural health care.
SO J-Okla-State-Med-Assoc. 1990 Mar. 83(3). P 107-8.
JT JOURNAL - OKLAHOMA STATE MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY. PHYSICIANS: supply-and-distribution (sd). RURAL-HEALTH.
MN HEALTH-FACILITY-CLOSURE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* OKLAHOMA.
YR 1990.
IS 0030-1876. JH3.
CP UNITED-STATES (Z1.107.567.875).
IM 9007.
ND ENTRY DATE: 900503.
CLASS UPDATE: 90.

211

AN 90203315. 90000.
AU Anema-R. Hubbach-J. McKenzie-H. Orban-J. Sjordal-S. Wasinger-J.
TI Taking dentistry to the *underserved:* treatment for the Killer B's.
SO J-Colo-Dent-Assoc. 1989 Oct. 68(2). P 15-9.
JT JOURNAL OF THE COLORADO DENTAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DENTAL-CARE. MISSIONS-AND-MISSIONARIES.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
SB Dental Journals (D).
LI D.
YR 1989.
IS 0010-1559. HUL.
CP UNITED-STATES (Z1.107.567.875).
IM 9007.
ND ENTRY DATE: 900510.

212

AN 90201464. 90000.
AU Foster-A. Wormald-R. van-de-Heide-A. Templeton-K. Minassian-D.
IN Institute of Ophthalmology, London.
TI Evaluation of ophthalmoscopy by nonophthalmologists in diagnosing

chronic glaucoma in West Africa.
 SO Eye. 1989. 3 (Pt 5). P 647-50.
 JT EYE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ GLAUCOMA: diagnosis (di). OPHTHALMIC-ASSISTANTS. OPHTHALMOSCOPY.
 PHYSICIANS-ASSISTANTS.
 MN AFRICA-WESTERN. CHRONIC-DISEASE. DIAGNOSTIC-ERRORS. HUMAN.
 MEDICALLY-UNDERSERVED-AREA. OBSERVER-VARIATION. OPHTHALMOSCOPY:
 statistics-and-numerical-data (sn). OPTIC-DISK: pathology (pa).
 REPRODUCIBILITY-OF-RESULTS. VISION-SCREENING.
 SB Priority Journals (M).
 YR 1989.
 IS 0950-222X. EYE.
 CP ENGLAND (Z1.542.363.300).
 IM 9007.
 ND ENTRY DATE: 900508.
 CLASS UPDATE: 90.

213

AN 90179995. 90000.
 AU Hite-V-L.
 TI Unique problems encountered in the delivery of mental health services
 to a Native Alaskan population.
 SO Arctic-Med-Res. 1988. 47 Suppl 1. P 581-4.
 JT ARCTIC MEDICAL RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-MENTAL-HEALTH-SERVICES: legislation-and-jurisprudence (lj).
 DELIVERY-OF-HEALTH-CARE: legislation-and-jurisprudence (lj).
 ESKIMOS: psychology (px). *MEDICALLY-UNDERSERVED-AREA.*
 MENTAL-DISORDERS: therapy (th).
 MN ADOLESCENCE. ADULT. ALASKA. CASE-REPORT. CHILD. FEMALE.
 HEALTH-SERVICES-NEEDS-AND-DEMAND: legislation-and-jurisprudence (lj).
 HUMAN. MALE. MIDDLE-AGE.
 YR 1988.
 IS 0782-226X. ABR.
 CP FINLAND (Z1.542.808.380).
 IM 9006.
 ND ENTRY DATE: 900425.
 CLASS UPDATE: 90.

214

AN 90179994. 90000.
 AU Rodgers-D-D. Abas-N.
 TI A survey of native mental health needs in Manitoba.
 SO Arctic-Med-Res. 1988. 47 Suppl 1. P 576-80.
 JT ARCTIC MEDICAL RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).

MJ COMMUNITY-MENTAL-HEALTH-SERVICES: supply-and-distribution (sd).
 HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).
 HEALTH-SERVICES-RESEARCH: trends (td). INDIANS-NORTH-AMERICAN:
 psychology (px). *MEDICALLY-UNDERSERVED-AREA.* MENTAL-DISORDERS:
 therapy (th).
 MN CROSS-SECTIONAL-STUDIES. HUMAN. MANITOBA: epidemiology (ep).
 MENTAL-DISORDERS: epidemiology (ep).
 YR 1988.
 IS 0782-226X. ABR.
 CP FINLAND (Z1.542.808.380).
 IM 9006.
 ND ENTRY DATE: 900425.
 CLASS UPDATE: 90.

215

AN 90179992. 90000.
 AU Messer-J-G.
 TI The "travelling dentist" system of delivering dental care in
 Newfoundland and Labrador. Perceptions and observations.
 SO Arctic-Med-Res. 1988. 47 Suppl 1. P 568-70.
 JT ARCTIC MEDICAL RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ATTITUDE-OF-HEALTH-PERSONNEL. COMMUNITY-HEALTH-AIDES.
 DELIVERY-OF-HEALTH-CARE: organization-and-administration (og).
 DENTAL-HEALTH-SERVICES: organization-and-administration (og).
 MEDICALLY-UNDERSERVED-AREA.
 MN HUMAN. NEWFOUNDLAND.
 YR 1988.
 IS 0782-226X. ABR.
 CP FINLAND (Z1.542.808.380).
 IM 9006.
 ND ENTRY DATE: 900425.

216

AN 90179991. 90000.
 AU Dickson-R-D.
 TI Comparing the development of dental services in Arctic regions.
 SO Arctic-Med-Res. 1988. 47 Suppl 1. P 564-7.
 JT ARCTIC MEDICAL RESEARCH.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB 31 Refs.
 MJ DENTAL-HEALTH-SERVICES: trends (td). HEALTH-EDUCATION-DENTAL: trends
 (td). *MEDICALLY-UNDERSERVED-AREA.*
 MN ARCTIC-REGIONS. FORECASTING. HUMAN. SUPPORT-NON-U-S-GOVT.
 YR 1988.
 IS 0782-226X. ABR.
 CP FINLAND (Z1.542.808.380).
 IM 9006.

ND ENTRY DATE: 900425.
CLASS UPDATE: 90.

217

AN 90179990. 90000.
AU Davey-K-W.
TI Primary dental care in Canadian Arctic communities.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 562-3.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DENTAL-CARE: trends (td). DENTAL-HEALTH-SERVICES: trends (td).
HEALTH-EDUCATION-DENTAL: trends (td). *MEDICALLY-UNDERSERVED-AREA.*
MN ARCTIC-REGIONS. CANADA. HUMAN.
YR 1988.
IS 0782-226X. ABR.
CP FINLAND (Z1.542.808.380).
IM 9006.
ND ENTRY DATE: 900425.

218

AN 90179974. 90000.
AU Bain-H-W.
TI Child health in circumpolar areas.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 504-9.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHILD-HEALTH-SERVICES: trends (td). CHILD-WELFARE: trends (td).
COLD-CLIMATE: adverse-effects (ae). INDIANS-NORTH-AMERICAN.
MEDICALLY-UNDERSERVED-AREA.
MN ARCTIC-REGIONS. CHILD. CHILD-PRESCHOOL. HEALTH-STATUS-INDICATORS.
HUMAN. INFANT. INFANT-NEWBORN. ONTARIO.
YR 1988.
IS 0782-226X. ABR.
CP FINLAND (Z1.542.808.380).
IM 9006.
ND ENTRY DATE: 900425.

219

AN 90179943. 90000.
AU Johnson-M-S.
TI Emergency Medical Services communications planning in Alaska.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 394-7.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EMERGENCY-MEDICAL-SERVICE-COMMUNICATION-SYSTEMS: trends (td).
EMERGENCY-MEDICAL-SERVICES: trends (td). HEALTH-SYSTEMS-PLANS:
trends (td). *MEDICALLY-UNDERSERVED-AREA.* REGIONAL-HEALTH-PLANNING:

trends (td). RURAL-HEALTH: trends (td).
MN ALASKA. FORECASTING. HUMAN. UNITED-STATES.
YR 1988.
IS 0782-226X. ABR.
CP FINLAND (Z1.542.808.380).
IM 9006.
ND ENTRY DATE: 900425.
CLASS UPDATE: 90.

220

AN 90179935. 90000.
AU Moffatt-M-E. Dickoff-K. Postl-B-D.
TI Referral of patients from isolated northern Manitoba communities.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 368-74.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ INDIANS-NORTH-AMERICAN. *MEDICALLY-UNDERSERVED-AREA.*
REFERRAL-AND-CONSULTATION: utilization (ut). SOCIAL-ISOLATION.
MN COMPARATIVE-STUDY. HUMAN. MANITOBA.
YR 1988.
IS 0782-226X. ABR.
CP FINLAND (Z1.542.808.380).
IM 9006.
ND ENTRY DATE: 900425.

221

AN 90179933. 90000.
AU Lugg-D-J.
TI Antarctica--lessons for health care planning and delivery to
circumpolar populations.
SO Arctic-Med-Res. 1988. 47 Suppl 1. P 360-4.
JT ARCTIC MEDICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COLD-CLIMATE: adverse-effects (ae). DELIVERY-OF-HEALTH-CARE: trends
(td). *MEDICALLY-UNDERSERVED-AREA.* SOCIAL-ISOLATION.
MN ANTARCTIC-REGIONS. HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).
HUMAN.
YR 1988.
IS 0782-226X. ABR.
CP FINLAND (Z1.542.808.380).
IM 9006.
ND ENTRY DATE: 900425.
CLASS UPDATE: 90.

222

AN 90179870. 90000.
AU Greig-M.
TI National Inuit Tapirisat of Canada.

SO Arctic-Med-Res. 1988. 47 Suppl 1. P 104.
 JT ARCTIC MEDICAL RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ INDIANS-NORTH-AMERICAN. *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH.
 SOCIETIES.
 MN CANADA. HUMAN.
 YR 1988.
 IS 0782-226X. ABR.
 CP FINLAND (Z1.542.808.380).
 IM 9006.
 ND ENTRY DATE: 900425.

223

AN 90153508. 90000.
 AU Braithwaite-R-L. Murphy-F. Lythcott-N. Blumenthal-D-S.
 TI Community organization and development for health promotion within an
 urban black community: a conceptual model.
 SO Health-Educ. 1989 Dec. 20(5). P 56-60.
 JT HEALTH EDUCATION.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The community organization and development process is not new and has
 its roots in social action ideology from the 1960s. The difference
 between the 1960s and the 1990s is in bringing together of target
 community consumers with representatives of private and public sector
 resources (with consumers in the majority), to form a community
 coalition board. This community coalition board must make policy
 decisions. Combining these community organizers and development
 techniques with the mission of health promotion is a viable
 methodology for addressing the needs of *medically* *underserved* and
 unserved communities. The approach is a multifactorial one, as
 illustrated in Figure 1. The Health Promotion Resource Center at
 Morehouse School of Medicine seeks to combine the ideology of
 community organization and development with culturally sensitive and
 linguistically appropriate health promotion curriculum materials and
 intervention strategies. Within the HPRC lies the Statewide
 Coordinating Center for Georgia which has been funded by the Henry J.
 Kaiser Family Foundation. Its mandate is to assist minority and poor
 communities in Georgia in developing community-based health promotion
 initiatives which address the areas of cancer, cardiovascular
 disease, adolescent pregnancy, substance abuse, and violence and
 unintentional injury. Our strategy in carrying out this mandate is
 the community organization and development model described in this
 article. Author-abstract.
 MJ BLACKS. COMMUNITY-HEALTH-SERVICES: organization-and-administration
 (og). HEALTH-PROMOTION: organization-and-administration (og).
 MN GEORGIA. HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN.
 POWER-PSYCHOLOGY. URBAN-POPULATION.
 SB Nursing Journals (N).

LI N.
YR 1989.
IS 0097-0050. G26.
CP UNITED-STATES (Z1.107.567.875).
IM 9005.
ND ENTRY DATE: 900322.
CLASS UPDATE: 91.

224

AN 90136367. 90000.
AU Westreich-L.
IN Beth Israel Medical Center in New York City.
TI Modern medical training confronts Guatemalan poverty.
SO Minn-Med. 1990 Jan. 73(1). P 19, 21-2.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CLINICAL-CLERKSHIP. DEVELOPING-COUNTRIES.
EDUCATION-MEDICAL-UNDERGRADUATE. *MEDICALLY-UNDERSERVED-AREA.*
POVERTY. RURAL-HEALTH.
MN GUATEMALA. HUMAN.
YR 1990.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9005.
ND ENTRY DATE: 900309.
CLASS UPDATE: 90.

225

AN 90134166. 90000.
TI Health status of detained and incarcerated youths. Council on
Scientific Affairs.
SO JAMA. 1990 Feb 16. 263(7). P 987-91.
JT JAMA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Youths who are detained or incarcerated in correctional facilities
represent a *medically* *underserved* population that is at high risk for
a variety of medical and emotional disorders. These youths not only
have a substantial number of preexisting health problems, they also
develop acute problems that are associated with their arrest and with
the environment of the correctional facility. Although the
availability of medical services varies by the size of the
institution, established standards are, in general, not being met.
Author-abstract. 45 Refs.
MJ HEALTH-SERVICES-NEEDS-AND-DEMAND. HEALTH-SERVICES-RESEARCH.
HEALTH-STATUS. JUVENILE-DELINQUENCY. PRISONERS.
MN ADOLESCENCE. FEMALE. HUMAN. MALE. QUALITY-OF-HEALTH-CARE:
statistics-and-numerical-data(sn). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer

Journals (X).
YR 1990.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9005.
ND ENTRY DATE: 900313.
CLASS UPDATE: 90.

226

AN 90130239. 90000.
AU Sharma-A-K. Gupta-R. Tolani-S-L.
TI Renal transplantation--magnitude of the problem `letter:.
SO J-Assoc-Physicians-India. 1989 Jul. 37(7). P 476.
JT JOURNAL OF THE ASSOCIATION OF PHYSICIANS OF INDIA.
PT LETTER (LET).
LG English (EN).
MJ KIDNEY-TRANSPLANTATION: statistics-and-numerical-data (sn).
MEDICALLY-UNDERSERVED-AREA.
MN HEMODIALYSIS: statistics-and-numerical-data (sn). HUMAN. INDIA.
YR 1989.
IS 0004-5772. HG7.
CP INDIA (Z1.252.245.393).
IM 9005.
ND ENTRY DATE: 900312.
CLASS UPDATE: 91.

227

AN 90114469. 90000.
AU Boyette-C-O.
TI A peer review issue `letter:.
SO N-C-Med-J. 1989 Dec. 50(12). P 718-9.
JT NORTH CAROLINA MEDICAL JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ HOSPITALS. HOSPITALS-RURAL. PROFESSIONAL-REVIEW-ORGANIZATIONS:
standards (st).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MEDICARE. NORTH-CAROLINA.
UNITED-STATES.
YR 1989.
IS 0029-2559. NTX.
CP UNITED-STATES (Z1.107.567.875).
IM 9004.
ND ENTRY DATE: 900213.
CLASS UPDATE: 91.

228

AN 90100528. 90000.
AU Jarratt-L-G. Leonardson-G-R. Nord-W-J.
TI Practice location factors influencing South Dakota School of Medicine
graduates (1977-85).

SO S-D-J-Med. 1989 Dec. 42(12). P 15-21.

JT SOUTH DAKOTA JOURNAL OF MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Physician numbers and placement continue to be major health delivery concerns in the rural state of South Dakota. This study of four-year graduates (1977-1985) of the South Dakota School of Medicine looks at current factors affecting physician placement and compares placement and location selection factors to a previous study of graduates of the medical school when it was a two-year program (1969-1973).

Factors influencing physicians locating in South Dakota were:

closeness to their home town and or spouses' home town, residency training in small towns, payment of educational loans, medical school clerkships, time of decision, etc. Factors influencing physicians locating in rural communities (less than 5,000) were: growing up in small communities, residency training in small communities, early location decisions, payment of loans, and high medical need.

Author-abstract.

MJ CAREER-CHOICE. *MEDICALLY-UNDERSERVED-AREA.* PROFESSIONAL-PRACTICE: trends (td). PROFESSIONAL-PRACTICE-LOCATION: trends (td).

MN HUMAN. SOUTH-DAKOTA. SUPPORT-NON-U-S-GOVT.

YR 1989.

IS 0038-3317. UJZ.

CP UNITED-STATES (Z1.107.567.875).

IM 9004.

ND ENTRY DATE: 900207.

CLASS UPDATE: 90.

229

AN 90069322. 90000.

AU Horn-Kullak-B. Abplanalp-A. Horn-Muller-B.

TI `Changes in medical care in the narrow Bern Oberland since the turn of the century:.

TT Der Wandel der arztlichen Versorgung im engeren Berner Oberland seit der Jahrhundertwende.

SO Schweiz-Rundsch-Med-Prax. 1989 Oct 31. 78(44). P 1231-7.

JT SCHWEIZERISCHE RUNDSCHAU FUR MEDIZIN PRAXIS.

PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).

LG German (GE).

AB An enormous transformation of health care delivery to the proper Bernese Oberland took place because of improvements in the transportation system, a raising number of practitioners, the nearly complete financial coverage of the population for the cost of this improved health care system and finally the raising awareness of the population for modern medicine. Expectations not only towards an increased life-expectancy but towards improved quality of life developed stormingly. According to valleys the changes in population, prominent types of physicians, birth, death and epidemics are reviewed. Financial and transportation-related problems, developments in care at home and outsiders are briefly highlighted.

Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* PRIMARY-HEALTH-CARE: history (hi).
RURAL-HEALTH: history (hi).
MN ENGLISH-ABSTRACT. HISTORY-OF-MEDICINE-20TH-CENT. HUMAN.
SWITZERLAND.
YR 1989.
IS 0369-8394. SRM.
CP SWITZERLAND (Z1.542.883).
IM 9003.
ND ENTRY DATE: 891228.
CLASS UPDATE: 90.

230

AN 90066015. 90000.
AU Heestand-D-E. Templeton-B-B. Adams-B-D.
TI Responding to perceived needs of the twenty-first century: a case
study in curriculum design.
SO Med-Teach. 1989. 11(2). P 157-67.
JT MEDICAL TEACHER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Mercer University School of Medicine was established in response to
the shortage of primary care physicians in *medically* *underserved*
Georgia. Originally patterned after the McMaster model of medical
education, Mercer found it necessary to modify the three academic
programs of the first 2 years of a 4-year undergraduate medical
education curriculum. Since accepting students in 1982, though, it
has retained many of the essential qualities of problem-based
learning and those educational experiences that prepare community
responsive physicians to practice in *medically* *underserved* areas.
Author-abstract.
MJ CURRICULUM. *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS-FAMILY:
education (ed). SCHOOLS-MEDICAL: standards (st).
MN GEORGIA. HUMAN. PHYSICIANS-FAMILY: supply-and-distribution (sd).
YR 1989.
IS 0142-159X. MF9.
CP ENGLAND (Z1.542.363.300).
IM 9003.
ND ENTRY DATE: 900105.

231

AN 90048391. 90000.
AU Fabre-J.
TI `Before we forget. (editorial):.
TT Avant qu'on ait oublie.
SO Schweiz-Rundsch-Med-Prax. 1989 Oct 17. 78(42). P 1147-8.
JT SCHWEIZERISCHE RUNDSCHAU FUR MEDIZIN PRAXIS.
PT EDITORIAL (EDI).
LG French (FR).
MJ HOSPITALS: supply-and-distribution (sd). *MEDICALLY-UNDERSERVED-AREA.*

PHYSICIANS: supply-and-distribution (sd).
MN HEALTH-SERVICES-ACCESSIBILITY. HUMAN. SWITZERLAND.
YR 1989.
IS 0369-8394. SRM.
CP SWITZERLAND (Z1.542.883).
IM 9002.
ND ENTRY DATE: 891127.
CLASS UPDATE: 91.

232

AN 90048056. 90000.
AU Santamaria-Zuazua-J. Goiriena-de-Gandarias-J.
TI `Oral health. Socio-professional criteria for improvement in the
autonomous Euskadi community:.
TT Salud buco-dental. Aportacion de criterios socio-profesionales para
su mejora en la comunidad autonoma de Euskadi.
SO Rev-Esp-Estomatol. 1988 Nov-Dec. 36(6). P 445-8.
JT REVISTA ESPANOLA DE ESTOMATOLOGIA.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
MJ ORAL-HEALTH. PUBLIC-HEALTH-DENTISTRY.
MN CHILD. DENTAL-CARIES: prevention-and-control (pc). FLUORIDATION.
HUMAN. *MEDICALLY-UNDERSERVED-AREA.* SPAIN.
SB Dental Journals (D).
LI D.
YR 1988.
IS 0484-7563. RTZ.
CP SPAIN (Z1.542.846).
IM 9002.
ND ENTRY DATE: 891211.

233

AN 90029904. 90000.
AU McDermott-R-E. Tynan-J-J.
TI Attracting dental graduates to rural locations: evaluation of the
Saskatchewan initiative.
SO Can-J-Community-Dent. 1988 Summer. 3(2). P 24-8.
JT CANADIAN JOURNAL OF COMMUNITY DENTISTRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DENTISTS: supply-and-distribution (sd). PROFESSIONAL-PRACTICE.
PROFESSIONAL-PRACTICE-LOCATION.
MN CHI-SQUARE-DISTRIBUTION. COMPARATIVE-STUDY. HUMAN.
MEDICALLY-UNDERSERVED-AREA. RURAL-POPULATION. SASKATCHEWAN.
STUDENTS-DENTAL.
SB Dental Journals (D).
LI D.
YR 1988.
IS CJO.
CP CANADA (Z1.107.567.176).

IM 9002.
ND ENTRY DATE: 891219.
CLASS UPDATE: 90.

234

AN 90024576. 90000.
AU DeLeon-P-H. Wakefield-M. Schultz-A-J. Williams-J. VandenBos-G-R.
TI Rural America. Unique opportunities for health care delivery and health services research.
SO Am-Psychol. 1989 Oct. 44(10). P 1298-306.
JT AMERICAN PSYCHOLOGIST.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A general deterioration is occurring in the quality of life of rural Americans, and it is affecting the quality of health and mental health service delivery. About 24% of the U.S. population lives in nonmetropolitan areas where the citizens are older, less well educated, have lower incomes, and are more homogeneous in terms of race and ethnicity. Medicare and private insurance discriminate against rural services in their reimbursement policies, and there is a shortage of health personnel in rural areas. However, there has been renewed congressional action to meet rural needs. Both the House and Senate have established rural caucuses, and an Office of Rural Health Policy has been established in the federal executive branch. Legislative successes were achieved between 1985 and 1988. Rural initiatives will provide psychology with unique opportunities in the next several years. Author-abstract.
MJ DELIVERY-OF-HEALTH-CARE: legislation-and-jurisprudence (lj).
HEALTH-POLICY: legislation-and-jurisprudence (lj).
HEALTH-SERVICES-RESEARCH: legislation-and-jurisprudence (lj).
RURAL-HEALTH.
MN FINANCING-GOVERNMENT: legislation-and-jurisprudence (lj). HUMAN.
MEDICALLY-UNDERSERVED-AREA. POLITICS. POVERTY. QUALITY-OF-LIFE.
UNITED-STATES.
YR 1989.
IS 0003-066X. 41V.
CP UNITED-STATES (Z1.107.567.875).
IM 9001.
ND ENTRY DATE: 891122.

235

AN 90007270. 90000.
AU Ernst-K.
TI CNEP--a pilot Community-Based Nurse-Midwifery Education Program.
SO Front-Nurs-Serv-Q-Bull. 1989 Summer. 65(1). P 1-4.
JT FRONTIER NURSING SERVICE QUARTERLY BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-NURSING-CONTINUING. NURSE-MIDWIVES: education (ed).
MN APPALACHIAN-REGION. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*

ORGANIZATIONAL-AFFILIATION.

SB Nursing Journals (N).
LI N.
YR 1989.
IS 0016-2116. F8C.
CP UNITED-STATES (Z1.107.567.875).
IM 9001.
ND ENTRY DATE: 891122.

236

AN 89369285. 89000.
AU Ellegaard-M.
TI `Greenland. Nurses are sacrificed in physicians shortage:.
TT Gronland. Sygeplejersker bliver ofre for laegemangel.
SO Sygeplejersken. 1988 Oct 19. 88(42). P 4-6.
JT SYGEPLEJERSKEN.
PT JOURNAL-ARTICLE (ART).
LG Danish (DA).
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSES: utilization (ut). PHYSICIANS:
supply-and-distribution(sd). PRIMARY-HEALTH-CARE: manpower (ma).
MN GREENLAND. HUMAN. JURISPRUDENCE.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0106-8350. VF9.
CP DENMARK (Z1.542.808.224).
IM 8912.
ND ENTRY DATE: 890928.

237

AN 89369278. 89000.
TI `Nurses in Greenland face big problems (editorial):.
TT Sygeplejersker i Gronland star over for store problemer.
SO Sygeplejersken. 1988 Oct 19. 88(42). P 2.
JT SYGEPLEJERSKEN.
PT EDITORIAL (EDI).
LG Danish (DA).
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSES: supply-and-distribution (sd).
PHYSICIANS: supply-and-distribution (sd).
MN GREENLAND. HUMAN.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0106-8350. VF9.
CP DENMARK (Z1.542.808.224).
IM 8912.
ND ENTRY DATE: 890928.
CLASS UPDATE: 91.

238

AN 89362801. 89000.
 AU Jafarey-N-A.
 TI Some suggestions about improvement of medical education in Pakistan.
 SO JPMA-J-Pak-Med-Assoc. 1989 May. 39(5). P 136-42.
 JT JPMA. JOURNAL OF THE PAKISTAN MEDICAL ASSOCIATION.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB 5 Refs.
 MJ CURRICULUM. DELIVERY-OF-HEALTH-CARE: standards (st).
 EDUCATION-MEDICAL: standards (st).
 MN DELIVERY-OF-HEALTH-CARE: manpower (ma). FACULTY-MEDICAL: standards
 (st). HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PAKISTAN.
 YR 1989.
 IS 0030-9982. KGI.
 CP PAKISTAN (Z1.252.245.723).
 IM 8912.
 ND ENTRY DATE: 890927.
 CLASS UPDATE: 91.

239

AN 89361064. 89000.
 AU Dever-G-E. Thomson-C-D. Williams-D-P. Kornegay-D-D.
 TI Physician supply and distribution in Georgia.
 SO J-Med-Assoc-Ga. 1989 Aug. 78(8). P 553-7.
 JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Physician supply in Georgia must be considered an urgent issue. Several important points must be recognized and addressed. The lowest physicians rates are in the more rural county population groupings. The only county population grouping with a surplus of physicians is in the over 150,000 population. The majority of physicians are concentrated in the metropolitan counties. Sixteen percent of all physicians practice in the 134 counties having less than 50,000 population. The majority of physicians are in primary care specialties. Family practice is the most dominant specialty in rural areas. By the year 2000, Georgia can expect to add 5,600 physicians due to growth. By the year 2000, Georgia can expect to lose 2,600 physicians due to retirement. Family practitioners are the most uniformly distributed of the specialties examined. They are also the specialty most needed. The average age of Georgia physicians is 46. General surgeons are in the oldest average age group (50), whereas internists are in the youngest (44). Older physicians are concentrated in the more rural areas. A significant number of all physicians are over age 55. The majority of these will be retired by the year 2000. Physicians over age 65 represent 9.2% of all physicians from the survey. In Georgia, 13.6% of all physicians were Foreign Medical School Graduates. They tend to locate their practices in *medically* *underserved* areas. The specialty choices most frequently favored by FMGs are: pediatrics, internal

medicine, family practice, and obstetrics/gynecology. A total of 71.2% of all physicians accept Medicare patients; 83.8% accept Medicare patients. Ninety-two percent of all obstetricians accept obstetric patients, but this participation is threatened by problems with malpractice insurance. Author-abstract.

MJ PHYSICIANS: supply-and-distribution (sd).

MN ADULT. AGED. FEMALE. GEORGIA. HUMAN. MALE. MIDDLE-AGE.

YR 1989.

IS 0025-7028. IZB.

CP UNITED-STATES (Z1.107.567.875).

IM 8912.

ND ENTRY DATE: 891005.

LAST REVISION DATE: 891220.

240

AN 89358245. 89000.

AU Simpson-D-A. Heyworth-J-S. McLean-A-J. Gilligan-J-E. North-J-B.
IN NH&MRC Road Accident Research Unit, University of Adelaide, South
Australia.

TI Extradural haemorrhage: strategies for management in remote places.

SO Injury. 1988 Sep. 19(5). P 307-12.

JT INJURY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A study of 109 cases of extradural haemorrhage (EDH) treated in South Australia over a period of 7 years showed that 35 cases (32.1 per cent) presented in country areas at considerable distances from a neurosurgical service: the mortality in these country cases was 22.9 per cent, comparing unfavourably with a mortality of 12.2 per cent in metropolitan cases. The country series contained a disproportionately large number of cases with multiple intracranial haemorrhages, which are known to have a poorer outcome; when these cases were excluded, the rural mortality (12.5 per cent) was only a little over the metropolitan mortality (9.7 per cent). These data suggest that it is possible to manage extradural haemorrhages successfully even in places remote from a neurosurgical centre, if communications and air transport are used effectively. However, it was found that emergency operations carried out in country hospitals were sometimes inadequate or done too late. Medical retrieval teams based on city hospitals were sent out on 15 occasions, either to assist a general surgeon to complete an emergency operation, or to provide intensive care during transfer to a neurosurgical unit. Osmotherapy (mannitol and/or frusemide) has been useful in gaining time for transfer; the choice between immediate operation and transfer may be difficult, and decisions should take transfer time, clinical state and rate of deterioration into account.

Author-abstract.

MJ CEREBRAL-HEMORRHAGE: therapy (th). EMERGENCY-MEDICAL-SERVICES:
organization-and-administration (og).HEAD-INJURIES: complications
(co). *MEDICALLY-UNDERSERVED-AREA.*

MN ACUTE-DISEASE. ADOLESCENCE. ADULT. AGED. CASE-REPORT.
CEREBRAL-HEMORRHAGE: etiology (et), mortality (mo). CHILD.
CHILD-PRESCHOOL. COMMUNICATION. EMERGENCIES. FEMALE. HUMAN.
INFANT. MALE. MIDDLE-AGE. SOUTH-AUSTRALIA.
TRANSPORTATION-OF-PATIENTS.

SB Priority Journals (M).

YR 1988.

IS 0020-1383. GON.

CP ENGLAND (Z1.542.363.300).

IM 8912.

ND ENTRY DATE: 891003.

241

AN 89354161. 89000.

AU Krell-R. Lim-M-E.

IN Department of Psychiatry, University of British Columbia, Vancouver.

TI The "marathon assessment" in child psychiatry: a service to
underserviced areas.

SO Can-J-Psychiatry. 1989 Aug. 34(6). P 606-8.

JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The University of British Columbia Child and Family Psychiatry
Outpatient Department has, since 1974, conducted intensive child
psychiatry assessments of patients referred from outlying areas. The
marathon assessment, as we have called it, requires up to three days
during which clinic staff conduct interviews with the referred
patient and family, and perform specific investigations as necessary.
By the end of the third day, the clinic team presents its findings
and recommendations to the family, and by phone and letter to the
referral source with arrangement for follow-up by physicians and/or
mental health clinics in the patient's geographic region. The
marathon evaluation has proven a worthy alternative to outreach
visits by a travelling child psychiatrist and to inpatient hospital
evaluations. The reasons for the advantages are enumerated.
Author-abstract.

MJ AFFECTIVE-SYMPTOMS: therapy (th). CHILD-BEHAVIOR-DISORDERS: therapy
(th). *MEDICALLY-UNDERSERVED-AREA.* REFERRAL-AND-CONSULTATION: trends
(td).

MN AFFECTIVE-SYMPTOMS: diagnosis (di). BRITISH-COLUMBIA. CASE-REPORT.
CHILD. CHILD-BEHAVIOR-DISORDERS: diagnosis (di).
COMBINED-MODALITY-THERAPY. FAMILY-THERAPY. FEMALE. HUMAN.
PSYCHOLOGICAL-TESTS.

SB Priority Journals (M).

YR 1989.

IS 0706-7437. CLR.

CP CANADA (Z1.107.567.176).

IM 8912.

ND ENTRY DATE: 891006.

242

AN 89351171. 89000.
AU Vazquez-Quintana-E.
TI Rationing medical services in Puerto Rico `see comments:.
CM Comment in: Bol Asoc Med P R 1990 Feb;82(2):77.
SO Bol-Asoc-Med-P-R. 1989 Aug. 81(8). P 323-4.
JT BOLETIN - ASOCIACION MEDICA DE PUERTO RICO.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-CARE-RATIONING. *MEDICALLY-UNDERSERVED-AREA.*
MN HUMAN. MEDICAL-INDIGENCY. PUERTO-RICO.
YR 1989.
IS 0004-4849. AB4.
CP PUERTO-RICO (Z1.107.904.770).
IM 8912.
ND ENTRY DATE: 891006.
LAST REVISION DATE: 900816.

243

AN 89330636. 89000.
AU Raymond-R.
TI Doctor glut or doctor shortage.
SO Nebr-Med-J. 1989 Jun. 74(6). P 158-9.
JT NEBRASKA MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ PHYSICIANS: supply-and-distribution (sd).
MN CAREER-CHOICE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NEBRASKA.
YR 1989.
IS 0091-6730. NU0.
CP UNITED-STATES (Z1.107.567.875).
IM 8911.
ND ENTRY DATE: 890831.

244

AN 89309305. 89000.
AU Begley-C-E. Aday-L-A. McCandless-R.
IN School of Public Health, University of Texas Health Science Center,
Houston 77225.
TI Evaluation of a primary health care program for the poor.
SO J-Community-Health. 1989 Summer. 14(2). P 107-20.
JT JOURNAL OF COMMUNITY HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This paper examines the success in implementing a major program
involving a partnership between public and private providers to
deliver primary health care services to the poor. In 1985, the 69th
Texas Legislature passed the Primary Health Care Services Act,
authorizing the Texas Department of Health to contract for or
directly provide primary health care services in those parts of the

state that are *medically* *underserved* and have large numbers of people in poverty. This paper evaluates the potential impact of the projects with respect to access and cost. The study revealed that the basic concept of allowing local public and private providers to develop projects reflecting their community's unique needs and resources was successful. The approach lead to a wide variety of different types of projects, but the basic goals and activities of the projects are consistent with the legislation. The evaluation identified three major program areas that could be improved: (1) patient monitoring and follow-up to ensure the accessibility of the priority primary care services, (2) the need for the development of projects in other high need areas of the state, and (3) greater efficiency in service delivery. Author-abstract.

MJ MEDICAL-INDIGENCY. PRIMARY-HEALTH-CARE: standards (st).
PROGRAM-EVALUATION.

MN HEALTH-RESOURCES: utilization (ut). HEALTH-SERVICES-ACCESSIBILITY.
HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PRIMARY-HEALTH-CARE: economics
(ec), organization-and-administration (og). SUPPORT-NON-U-S-GOVT.
TEXAS.

SB Priority Journals (M).

YR 1989.

IS 0094-5145. HUT.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890825.

245

AN 89307107. 89000.

AU Kindig-D-A. Movassaghi-H.

TI The adequacy of physician supply in small rural counties.

SO Health-Aff (Millwood). 1989 Summer. 8(2). P 63-76.

JT HEALTH AFFAIRS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution
(sd). RURAL-POPULATION.

MN HEALTH-POLICY. HUMAN. PHYSICIANS: trends (td).

SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S. UNITED-STATES.

YR 1989.

IS 0278-2715. GAG.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890825.

246

AN 89306249. 89000.

AU Head-R-E. Harris-D-L.

IN Department of Family and Preventive Medicine, University of Utah
School of Medicine, Salt Lake City 84132.

TI Characteristics of medical school applicants: implications for rural

health care `see comments:.

CM Comment in: Fam Med 1991 Mar-Apr;23(3):169.

SO Fam-Med. 1989 May-Jun. 21(3). P 187-90.

JT FAMILY MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Physicians seem to prefer to practice in communities where there is already an adequate number of physicians, rather than in *underserved* rural areas. Virtually all studies examining this problem base their data on subjects who are already within or beyond the medical education process. Thus, such studies may obscure the degree to which practice site preferences are a result of the medical education selection process, or to what degree they were present in the premedical student population. Medical school applicants were surveyed about their intended practice site choices, as well as a number of characteristics thought to be correlated with intended practice sites. Eleven characteristics were found to be associated with intended practice sites. A disproportionately large number of applicants intended to practice in mid-size communities, a disproportionately low number of applicants in rural areas. There was no statistically significant difference in the acceptance rates of applicants who planned to practice in rural areas and those who did not. Author-abstract.

MJ *MEDICALLY-UNDERSERVED-AREA.* RURAL-HEALTH. SCHOOLS-MEDICAL.

MN ADULT. CAREER-CHOICE. HUMAN. PROFESSIONAL-PRACTICE-LOCATION. SCHOOL-ADMISSION-CRITERIA. UTAH.

SB Priority Journals (M).

YR 1989.

IS 0742-3225. FAL.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890815.

LAST REVISION DATE: 910805.

CLASS UPDATE: 90.

247

AN 89306248. 89000.

AU Blondell-R-D. Smith-I-J. Byrne-M-E. Higgins-C-W.

IN Department of Family Practice, University of Louisville, School of Medicine, Kentucky 40292.

TI Rural health, family practice, and area health education centers: a national study `published erratum appears in Fam Med 1989 Jul-Aug;21(4):309:.

SO Fam-Med. 1989 May-Jun. 21(3). P 183-6.

JT FAMILY MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The National Area Health Education Center (AHEC) Program and the family practice specialty were both created around 1970, in part to help meet the health care needs of *medically* *underserved* populations.

Because these two entities share the common goal of alleviating physician shortages in rural areas, a study was conducted to determine the nature and extent of their interaction. Questionnaires were mailed to all AHEC projects and all nonmilitary family practice residency programs. Response rates were 100% and 79%, respectively. Elective rural rotations (usually preceptorships) are offered by 135 (49%) residencies, but only 84 (31%) require them. Fourteen (64%) AHEC projects interact with family practice residencies; however, only 9% (15/167) of the programs in those states utilize AHEC resources. The authors conclude that additional rural rotations could be offered to family practice residents by taking advantage of under-utilized resources of the National AHEC Program.

Author-abstract.

MJ AREA-HEALTH-EDUCATION-CENTERS. FAMILY-PRACTICE: education (ed).
INTERNSHIP-AND-RESIDENCY: statistics-and-numerical-data (sn).
RURAL-HEALTH. SCHOOLS-HEALTH-OCCUPATIONS.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS-FAMILY:
supply-and-distribution (sd). QUESTIONNAIRES.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Priority Journals (M).
YR 1989.
IS 0742-3225. FAL.
CP UNITED-STATES (Z1.107.567.875).
IM 8910.
ND ENTRY DATE: 890815.
LAST REVISION DATE: 890919.
CLASS UPDATE: 90.
NO 5U76PE00202. 1D32PE1403401.

248

AN 89301040. 89000.
AU Kettl-P.
TI Psychiatric consultation to the bush.
SO Alaska-Med. 1989 Mar-Apr. 31(2). P 62-3.
JT ALASKA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration
(og). CONSULTANTS. *MEDICALLY-UNDERSERVED-AREA.*
MN ALASKA. COMMUNITY-MENTAL-HEALTH-SERVICES: manpower (ma).
DELIVERY-OF-HEALTH-CARE: manpower (ma),
organization-and-administration (og). HUMAN.
YR 1989.
IS 0002-4538. 35S.
CP UNITED-STATES (Z1.107.567.875).
IM 8910.
ND ENTRY DATE: 890802.

249

AN 89298483. 89000.

AU Kononov-A-G.
TI `Analysis and ways of improving the organization of activities of
sector physicians:.
TT Analiz i puti uluchsheniia organizatsii raboty uchastkovykh
terapevtov.
SO Sov-Zdravookhr. 1989. (5). P 15-7.
JT SOVETSKOE ZDRAVOOKHRANENIE.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
AB Proceeding from the analysis of the organization of reception of
patients in 4 city polyclinics having 104 therapeutic sectors, the
study demonstrated decrease of the amount and breach of continuity of
medical care rendered to the residents of the sectors where doctors
were absent during the reception. It was proposed to appraise and
monitor the work of sector physicians during their reception of
patients through a complex indicator of intensity of consultation
rates at other medical sectors. The introduced system of extra
payment of physicians and paramedical staff for reception of patients
from other sectors where the sector physician was absent could raise
continuity of care and eliminate patients' complaints and discontent
of medical workers. Author-abstract.
MJ HOSPITALS: manpower (ma). HOSPITALS-URBAN: manpower (ma).
MEDICAL-STAFF-HOSPITAL: organization-and-administration (og).
OUTPATIENT-CLINICS-HOSPITAL: manpower (ma). PERSONNEL-MANAGEMENT:
standards (st). PERSONNEL-STAFFING-AND-SCHEDULING: standards (st).
MN CATCHMENT-AREA-HEALTH. ENGLISH-ABSTRACT. HOSPITALS-URBAN:
organization-and-administration (og). HUMAN.
MEDICALLY-UNDERSERVED-AREA. OUTPATIENT-CLINICS-HOSPITAL:
organization-and-administration (og). SIBERIA.
YR 1989.
IS 0038-5239. UWK.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 8910.
ND ENTRY DATE: 890801.
CLASS UPDATE: 90.

250

AN 89298482. 89000.
AU Shmatov-A-V. Chervochkin-E-N. Nikitushev-IuM.
TI `The zone principle in the organization of emergency medical
services:.
TT Zonal'nyi printsip postroeniia skoroi meditsinskoi pomoshchi.
SO Sov-Zdravookhr. 1989. (5). P 11-5.
JT SOVETSKOE ZDRAVOOKHRANENIE.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
AB The analysis of basic shortcoming of the centralized system of
functioning of emergency and ambulance aid stations in a large city
has been carried out. Methodological principles of zone development
of emergency medical aid in Moscow are provided. Author-abstract.

MJ EMERGENCY-MEDICAL-SERVICES: organization-and-administration (og).
HEALTH: standards (st). *MEDICALLY-UNDERSERVED-AREA.* URBAN-HEALTH:
standards (st).
MN CATCHMENT-AREA-HEALTH. EMERGENCY-MEDICAL-SERVICES: standards (st).
ENGLISH-ABSTRACT. HUMAN. MOBILE-HEALTH-UNITS:
organization-and-administration (og), standards (st). MOSCOW.
YR 1989.
IS 0038-5239. UWK.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 8910.
ND ENTRY DATE: 890801.
CLASS UPDATE: 90.

251

AN 89294731. 89000.
AU Olle-Goig-J-E.
TI `Aisha's eyes. Reflections of a physician in the Sahel:.
TT Los ojos de Aisha. Reflexiones de un medico en el Sahel.
SO Med-Clin (Barc). 1989 Apr 1. 92(12). P 460-1.
JT MEDICINA CLINICA.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
MJ *MEDICALLY-UNDERSERVED-AREA.*
MN AFRICA. HUMAN. MEDICAL-INDIGENCY.
YR 1989.
IS 0025-7753. LTQ.
CP SPAIN (Z1.542.846).
IM 8910.
ND ENTRY DATE: 890803.

252

AN 89273087. 89000.
AU Hartfield-V-J.
TI Maternal mortality in Rangoon Burma `letter:.
SO Aust-N-Z-J-Obstet-Gynaecol. 1988 Nov. 28(4). P 328.
JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF OBSTETRICS AND GYNAECOLOGY.
PT LETTER (LET).
LG English (EN).
MJ MATERNAL-MORTALITY. *MEDICALLY-UNDERSERVED-AREA.*
MN ETHICS-MEDICAL. FEMALE. HUMAN. MYANMAR. PREGNANCY.
SB Priority Journals (M).
YR 1988.
IS 0004-8666. 9I0.
CP AUSTRALIA (Z1.338).
IM 8909.
ND ENTRY DATE: 890703.
CLASS UPDATE: 92.

253

AN 89268711. 89000.

AU Gessert-C. Blossom-J. Sommers-P. Canfield-M-D. Jones-C.
 TI Family physicians for *underserved* areas. The role of residency
 training.
 SO West-J-Med. 1989 Feb. 150(2). P 226-30.
 JT WESTERN JOURNAL OF MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Graduates of four rural and four urban family practice programs were
 interviewed to determine the nature of their practices and the
 factors that had influenced their practice location decisions. All
 programs gave residents substantial experience providing continuity
 of care for *underserved* populations. Of the 158 physicians surveyed,
 58 (46%) were working in areas designated as *underserved.* The
 percentage of physicians in *underserved* areas was higher than that
 reported in other studies and was much higher than would be expected
 if practice sites were selected on the basis of population
 distribution alone. Notable differences in personal and practice
 characteristics were found between the physicians who chose to work
 in *underserved* areas and those who did not and between those who
 established practices in rural and in urban *underserved* areas.
 Author-abstract.
 MJ FAMILY-PRACTICE: education (ed). INTERNSHIP-AND-RESIDENCY.
 MEDICALLY-UNDERSERVED-AREA. PHYSICIANS-FAMILY:
 supply-and-distribution (sd).
 MN AREA-HEALTH-EDUCATION-CENTERS. CALIFORNIA. FEMALE. HUMAN. MALE.
 SUPPORT-U-S-GOVT-P-H-S.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1989.
 IS 0093-0415. XN5.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8909.
 ND ENTRY DATE: 890713.
 CLASS UPDATE: 90.
 NO 1U76PE0100801. 5U76PE0005304.

254

AN 89253910. 89000.
 AU Weston-P-M.
 TI Care of the injured in the Third World--what can we learn?
 SO Injury. 1987 Sep. 18(5). P 297-303.
 JT INJURY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB There is a need to put more emphasis on primary surgical care centred
 on provincial and district hospitals in the developing world using
 simple equipment which needs little maintenance and low running
 costs. The general duty doctors and paramedicals who are at the
 first point of contact with the patient, need practical on-site
 instruction in dealing with common surgical emergencies, of which
 injury forms a large part. To achieve this change in emphasis,

provision should be made for surgical trainees and experienced surgeons from the United Kingdom or else where to work in selected provincial and district hospitals where support services can be adequately provided. The experience they would gain, would in turn benefit their patients in the National Health Service. If this activity is to have any chance of success, the training and research potential must be recognized by the Royal Colleges as valid experience in higher surgical training programmes. The National Health Service and the Health Authorities must accept these periods overseas as integral parts of a career in the National Health Service. This would include provision for superannuation, encouraging proleptic appointments to consultant posts, and secondment or early retirement of Consultants. Funding should be sought from international and national agencies for a pilot project based on a direct link between a district hospital in this country and a selected district or provincial hospital in a developing country.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.

MJ DEVELOPING-COUNTRIES. *MEDICALLY-UNDERSERVED-AREA.*

WOUNDS-AND-INJURIES: surgery (su).

MN AFRICA-EASTERN. EDUCATION-MEDICAL-CONTINUING.

EQUIPMENT-AND-SUPPLIES-HOSPITAL. HOSPITALS-DISTRICT. HUMAN.

SURGERY: education (ed).

SB Priority Journals (M).

YR 1987.

IS 0020-1383. GON.

CP ENGLAND (Z1.542.363.300).

IM 8909.

ND ENTRY DATE: 890626.

CLASS UPDATE: 90.

255

AN 89234675. 89000.

AU Shreve-W-B Jr. Clark-L-L. McNeal-D-R.

IN Department of Community Dentistry, University of Florida College of Dentistry, Gainesville 32610.

TI An extramural dental education program in a rural setting in Florida.

SO J-Community-Health. 1989 Spring. 14(1). P 53-60.

JT JOURNAL OF COMMUNITY HEALTH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB An extramural dental education experience which is a required component of the University of Florida College of Dentistry is described. The program, established in 1977, is conducted on a contractual basis between the college and the Lafayette-Suwannee Rural Health Corporation, Inc., the governing body of the Dental Center clinic located in the town of Mayo, Florida, which is 65 miles from the dental school. The program has brought high quality comprehensive dental care to a previously *underserved* population. Dental students are provided with experiences that enhance social sensitization, and that are perceived by them as a help in bridging

the gap between dental school and dental practice after graduation.
The program has made valued contributions to the education, research,
and service components of the dental school's mission.

Author-abstract.

MJ DENTAL-CLINICS: organization-and-administration (og).

EDUCATION-DENTAL.

MN CLINICAL-COMPETENCE. FLORIDA. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
RURAL-POPULATION.

SB Priority Journals (M).

YR 1989.

IS 0094-5145. HUT.

CP UNITED-STATES (Z1.107.567.875).

IM 8908.

ND ENTRY DATE: 890614.

256

AN 89234578. 89000.

TI Health care in rural America: the crisis unfolds. Joint Task Force
of the National Association of Community Health Centers and the
National Rural Health Association.

SO J-Public-Health-Policy. 1989 Spring. 10(1). P 99-116.

JT JOURNAL OF PUBLIC HEALTH POLICY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ HEALTH-CARE-COALITIONS. HEALTH-PLANNING-ORGANIZATIONS.
RURAL-HEALTH: trends (td).

MN COMMUNITY-HEALTH-CENTERS. HEALTH-SERVICES-ACCESSIBILITY.
HOSPITALS-RURAL: economics (ec). HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
RURAL-POPULATION. UNITED-STATES.

YR 1989.

IS 0197-5897. HS5.

CP UNITED-STATES (Z1.107.567.875).

IM 8908.

ND ENTRY DATE: 890614.

CLASS UPDATE: 90.

257

AN 89225700. 89000.

AU Durosinmi-Etti-F-A. Campbell-O-B.

IN Department of Radiotherapy, Lagos University Teaching Hospital,
Nigeria.

TI Combination chemotherapy as the first line in the management of
locally advanced epidermoid carcinoma of the head and neck region in
Nigerians.

SO Afr-J-Med-Med-Sci. 1988 Dec. 17(4). P 221-5.

JT AFRICAN JOURNAL OF MEDICINE AND MEDICAL SCIENCES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Of cancer patients in Nigeria, 92% report at a late stage before
treatment. Those with tumours of the head and neck region in

particular, pose serious problems with management. Their advanced disease means that they are often inoperable and results of treatment by radiation are poor because the dose is limited to what the tissues can tolerate and also because the larger the tumour volume involved, the less the amount of radiation dose possible, so the response is poor. The problem is made worse by inadequate radiotherapy facilities. At the time of the study only one moderately equipped radiotherapy centre served the whole of Nigeria (with a population of 100 million) and neighbouring Ghana, Sierra-Leone and the Cameroons. There is usually a patient waiting list of about 3-4 months at any time, thus making prompt treatment impossible. These local problems and the search for an alternative approach led to this prospective study, which took place between 1980 and 1984. Two hundred and five adult patients with histologically proven, and locally advanced, epidermoid carcinoma in the head and neck region were given combination chemotherapy with Vincristine, Bleomycin and Methotrexate as the first line of management. There was a tumour regression rate of 68% (complete + partial), such that further treatment with surgery, radiotherapy, or a combination of both was then possible.

Author-abstract.

MJ ANTINEOPLASTIC-AGENTS-COMBINED: therapeutic-use (tu).
 CARCINOMA-SQUAMOUS-CELL: drug-therapy (dt). HEAD-AND-NECK-NEOPLASMS:
 drug-therapy (dt).
 MN ADOLESCENCE. ADULT. AGED. BLEOMYCINS: administration-and-dosage
 (ad). DRUG-ADMINISTRATION-SCHEDULE. FEMALE. HUMAN.
 INFUSIONS-INTRAVENOUS. MALE. *MEDICALLY-UNDERSERVED-AREA.*
 METHOTREXATE: administration-and-dosage (ad). MIDDLE-AGE. NIGERIA.
 REMISSION-INDUCTION. VINCRISTINE: administration-and-dosage (ad).
 RN 0 -- Antineoplastic-Agents-Combined.
 0 -- Bleomycins.
 57-22-7 -- Vincristine.
 59-05-2 -- Methotrexate.
 SB Priority Journals (M).
 YR 1988.
 IS 0309-3913. 29G.
 CP GERMANY-WEST (Z1.542.315.570).
 IM 8908.
 ND ENTRY DATE: 890526.
 CLASS UPDATE: 92.

258

AN 89218670. 89000.
 AU Raffa-H. Sorefan-A. Sorefan-M.
 TI Cardiovascular surgery between Makkah and Madinah.
 SO Med-J-Malaysia. 1988 Mar. 43(1). P 28-33.
 JT MEDICAL JOURNAL OF MALAYSIA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ CARDIOVASCULAR-DISEASES: surgery (su).
 MN ADOLESCENCE. ADULT. AGED. CHILD. CHILD-PRESCHOOL. FEMALE.

HUMAN. MALE. *MEDICALLY-UNDERSERVED-AREA.* MIDDLE-AGE.
RETROSPECTIVE-STUDIES. SAUDI-ARABIA.
YR 1988.
IS 0300-5283. M2M.
CP MALAYSIA (Z1.252.145.487).
IM 8908.
ND ENTRY DATE: 890526.

259

AN 89201329. 89000.
AU Troskie-R.
TI `Cost effective health services in a First and Third World context:.
TT Koste effektiewe dienslewering in 'n eerste- en derdewereld konteks.
SO Nurs-RSA. 1989 Jan. 4(1). P 35-6.
JT NURSING RSA.
PT JOURNAL-ARTICLE (ART).
LG Afrikaans (AF).
AB An alarming increase in the per capita costs of curative services
compels the nurse manager in both the First and Third World context
to see cost-effective care as a priority. To organize a service for
the benefit of the consumer, personnel should be developed in
organizational strategies. The shortage of trained manpower,
especially in the Third World, necessitates educational opportunities
to stimulate economical growth. Utilization of personnel and
job-enrichment could also contribute towards cost-effective service.
Author-abstract.
MJ DEVELOPING-COUNTRIES. HEALTH-SERVICES: economics (ec).
MN COST-BENEFIT-ANALYSIS. ENGLISH-ABSTRACT. HEALTH-MANPOWER. HUMAN.
MEDICALLY-UNDERSERVED-AREA.
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0258-1647. NRV.
CP SOUTH-AFRICA (Z1.58.349.843).
IM 8907.
ND ENTRY DATE: 890522.
CLASS UPDATE: 91.

260

AN 89194900. 89000.
TI Recruiting family physicians to underserved areas `letter:.
SO Can-Med-Assoc-J. 1989 Apr 15. 140(8). P 885-9.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS-FAMILY:
supply-and-distribution (sd).
MN CANADA. FAMILY-PRACTICE: education (ed). HUMAN.
INTERNSHIP-AND-RESIDENCY.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer

Journals (X).
YR 1989.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 8907.
ND ENTRY DATE: 890522.
CLASS UPDATE: 91.

261

AN 89178966. 89000.
TI Providing medical services through school-based health programs.
Council on Scientific Affairs `see comments:.
CM Comment in: JAMA 1989 Dec 15;262(23):3271.
SO JAMA. 1989 Apr 7. 261(13). P 1939-42.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Resolution 162, which was adopted at the 1987 Annual Meeting by the Board of Trustees, called on the American Medical Association to study the efficacy of school-based health clinics. Recent data show that a significant number of school-aged youth are in need of an adequate source of health care. School-based health programs constitute a promising avenue for providing health services to adolescents, particularly in *medically* *underserved* areas. Although there are insufficient data to support universal establishment of school-based health programs, small-scale studies suggest that such programs are a viable means to increase access to health care for youth. Author-abstract.
MJ DELIVERY-OF-HEALTH-CARE: organization-and-administration (og).
SCHOOL-HEALTH-SERVICES.
MN ADOLESCENCE. AGE-FACTORS. AMERICAN-MEDICAL-ASSOCIATION. CHILD. CONFIDENTIALITY. CONTRACEPTION. HEALTH-POLICY. HUMAN. MEDICAL-INDIGENCY. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890425.
LAST REVISION DATE: 900404.

262

AN 89175923. 89000.
AU Wahls-T-L. Stene-R-A.
TI Short-term medical service in the developing world.
SO J-Am-Med-Wom-Assoc. 1989 Jan-Feb. 44(1). P 18-20.
JT JOURNAL OF THE AMERICAN MEDICAL WOMENS ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Medicine as it is practiced in the developing world is far removed from medicine as we know it in the United States. It is the authors' opinion that the developing world offers a stimulating environment *medically,* culturally, and ethically. Those physicians who devote some portion of their careers to practicing in the developing world reap significant rewards. The authors describe how they found and selected medical situations in the developing world and the experiences they had delivering health care in those situations. Author-abstract.

MJ DEVELOPING-COUNTRIES. VOLUNTARY-WORKERS: manpower (ma).

MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NEPAL. WEST-INDIES.

YR 1989.

IS 0098-8421. H7R.

CP UNITED-STATES (Z1.107.567.875).

IM 8907.

ND ENTRY DATE: 890505.

263

AN 89167360. 89000.

AU Iglehart-J-K.

TI A perspective on the future of infectious disease reimbursement.

SO Bull-N-Y-Acad-Med. 1988 Jul-Aug. 64(6). P 577-90.

JT BULLETIN OF THE NEW YORK ACADEMY OF MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ COMMUNICABLE-DISEASES: economics (ec). *MEDICALLY-UNDERSERVED-AREA.* PROSPECTIVE-PAYMENT-SYSTEM.

MN HUMAN. UNITED-STATES.

YR 1988.

IS 0028-7091. BQO.

CP UNITED-STATES (Z1.107.567.875).

IM 8907.

ND ENTRY DATE: 890510.

264

AN 89159616. 89000.

AU Wittich-A-C.

TI The medical care system and medical readiness training exercises (MEDRETEs) in Honduras.

SO Mil-Med. 1989 Jan. 154(1). P 19-23.

JT MILITARY MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Honduras is the second largest and one of the least urbanized of the six Central American countries. Beginning with Big Pine II Military maneuvers in August 1983, U.S. military medical personnel based in Palmerola, Honduras, have been involved with a civic action-type training activity termed the Medical Readiness Training Exercise (MEDRETE). Medical officer and enlisted medics from the three services have had the opportunity to receive military medicine

training in a Third World environment. The planning, preparation, and initiation of these training missions and the benefits to the participants and recipients are discussed. Author-abstract.

MJ MILITARY-MEDICINE: education (ed).

MN DELIVERY-OF-HEALTH-CARE: organization-and-administration (og).

DEVELOPING-COUNTRIES. HONDURAS. HUMAN. MEDICAL-INDIGENCY.

MEDICAL-MISSIONS-OFFICIAL. *MEDICALLY-UNDERSERVED-AREA.*

MOBILE-HEALTH-UNITS.

YR 1989.

IS 0026-4075. N1A.

CP UNITED-STATES (Z1.107.567.875).

IM 8906.

ND ENTRY DATE: 890417.

CLASS UPDATE: 91.

265

AN 89139080. 89000.

AU DeFries-G-H. Ricketts-T-C.

IN Health Services Research Center, University of North Carolina, Chapel Hill 27599-7490.

TI Primary health care in rural areas: an agenda for research.

SO Health-Serv-Res. 1989 Feb. 23(6). P 931-74.

JT HEALTH SERVICES RESEARCH.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB The confluence of forces slowing the growth of the physician supply despite a continued shortage of primary care physicians, the encouragement of competitive medical practices that centralize resources in larger places, and the changing of the rural population's character to one of more dependence on medical care may bring on another "rural health crisis" in the decade ahead.

Author-abstract. 100 Refs.

MJ HEALTH-SERVICES-RESEARCH. PRIMARY-HEALTH-CARE. RURAL-HEALTH: trends (td).

MN COMMUNITY-HEALTH-SERVICES: trends (td). HEALTH-POLICY: trends (td).

HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td). HUMAN.

MEDICALLY-UNDERSERVED-AREA. PRIMARY-HEALTH-CARE:

organization-and-administration (og), supply-and-distribution (sd).

SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S.

SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Priority Journals (M).

YR 1989.

IS 0017-9124. G2L.

CP UNITED-STATES (Z1.107.567.875).

IM 8906.

ND ENTRY DATE: 890405.

CLASS UPDATE: 90.

266

AN 89138867. 89000.

AU Alonso-Caballero-J. Anto-Boque-J-M.
 TI `Health inequalities in Barcelona:.
 TT Desigualtats de salut a Barcelona.
 SO Gac-Sanit. 1988 Jan-Feb. 2(4). P 4-12.
 JT GACETA SANITARIA.
 PT JOURNAL-ARTICLE (ART).
 LG Spanish (SP). Catalan (CT).
 MJ HEALTH-SERVICES-ACCESSIBILITY. HEALTH-SERVICES-NEEDS-AND-DEMAND.
 HEALTH-SERVICES-RESEARCH. *MEDICALLY-UNDERSERVED-AREA.*
 MN ENGLISH-ABSTRACT. HEALTH-STATUS-INDICATORS. HUMAN. MORTALITY.
 SOCIOECONOMIC-FACTORS. SPAIN. URBAN-HEALTH.
 YR 1988.
 IS 0213-9111. GSZ.
 CP SPAIN (Z1.542.846).
 IM 8906.
 ND ENTRY DATE: 890406.
 CLASS UPDATE: 91.

267

AN 89136099. 89000.
 AU Aloysius-D-J. Heennilame-G-M. Jayawardene-L-D.
 Wijegoonawardene-A-D.
 TI A survey of general practitioners in Sri Lanka.
 SO Ceylon-Med-J. 1987 Dec. 32(4). P 201-11.
 JT CEYLON MEDICAL JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ DEVELOPING-COUNTRIES. FAMILY-PRACTICE: manpower (ma).
 MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* SRI-LANKA.
 SUPPORT-NON-U-S-GOVT.
 YR 1987.
 IS 0009-0875. CY9.
 CP SRI-LANKA (Z1.252.245.840).
 IM 8906.
 ND ENTRY DATE: 890406.

268

AN 89117651. 89000.
 AU Chezik-K-H. Pratt-J-E. Stewart-J-L. Deal-V-R.
 TI Addressing service delivery in remote/rural areas.
 SO ASHA. 1989 Jan. 31(1). P 52-5.
 JT ASHA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ HEARING-DISORDERS: diagnosis (di). *MEDICALLY-UNDERSERVED-AREA.*
 RURAL-POPULATION. SPEECH-DISORDERS: diagnosis (di).
 MN AUDIOLOGY: education (ed). CHILD. FINANCING-GOVERNMENT. HUMAN.
 SCHOOL-HEALTH-SERVICES: economics (ec). SPEECH-LANGUAGE-PATHOLOGY:
 education (ed). TELECOMMUNICATIONS. UNITED-STATES.
 YR 1989.

IS 0001-2475. 92G.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890306.
CLASS UPDATE: 90.

269

AN 89114929. 89000.
AU Mustafina-ZhG. Teleuova-T-S. Aubakirova-AZh. Kobbabaeva-G.
Nurgalieva-G-K.
TI `Experience in serving the child population in hard-to-reach areas of
Kazakhstan:.
TT Opyt dispanserizatsii detskogo naseleniia trudnodostupnykh zon
Kazakhstana.
SO Vestn-Oftalmol. 1988 Jul-Aug. 104(4). P 69-70.
JT VESTNIK OFTALMOLOGII.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
MJ CHILD-HEALTH-SERVICES: supply-and-distribution (sd). EYE-DISEASES:
therapy (th). MOBILE-HEALTH-UNITS: supply-and-distribution (sd).
MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. EYE-DISEASES: diagnosis (di).
FEMALE. HUMAN. INFANT. KAZAKHSTAN. MALE.
MEDICALLY-UNDERSERVED-AREA.
YR 1988.
IS 0042-465X. XAO.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 8905.
ND ENTRY DATE: 890303.
CLASS UPDATE: 92.

270

AN 89100702. 89000.
AU Bakke-K-A.
TI `Takeoff in Finnmark, that's worthwhile]:.
TT Sats pa Finnmark, det lonner seg]
SO Sykepleien. 1988 Oct 6. 76(19). P 4-6.
JT SYKEPLEIEN.
PT JOURNAL-ARTICLE (ART).
LG Norwegian (NO).
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSING: manpower (ma).
NURSING-STAFF-HOSPITAL: supply-and-distribution (sd).
MN HEALTH-MANPOWER. HUMAN. NORWAY.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0039-7628. VFK.
CP NORWAY (Z1.542.808.618).
IM 8904.
ND ENTRY DATE: 890216.

271

AN 89096539. 89000.
AU Johnson-T-M. Hicker-J-M. Mazzuchi-D-S. Brazeau-N-K.
TI Cooperation is the key to solving rural physician shortage `letter:.
SO Mich-Med. 1988 Dec. 87(12). P 757, 796, 804.
JT MICHIGAN MEDICINE.
PT LETTER (LET).
LG English (EN).
MJ CLINICAL-CLERKSHIP. EDUCATION-MEDICAL-UNDERGRADUATE.
MEDICALLY-UNDERSERVED-AREA. PRIMARY-HEALTH-CARE: manpower (ma).
RURAL-HEALTH.
MN HUMAN. MICHIGAN. SOCIETIES-MEDICAL.
YR 1988.
IS 0026-2293. MX2.
CP UNITED-STATES (Z1.107.567.875).
IM 8904.
ND ENTRY DATE: 890214.
CLASS UPDATE: 91.

272

AN 89094755. 89000.
AU Foy-C. Hutchinson-A. Smyth-J.
TI Providing census data for general practice. 2. Usefulness.
SO J-R-Coll-Gen-Pract. 1987 Oct. 37(303). P 451-4.
JT JOURNAL OF THE ROYAL COLLEGE OF GENERAL PRACTITIONERS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DEMOGRAPHY. FAMILY-PRACTICE. *MEDICALLY-UNDERSERVED-AREA:.*
statistics-and-numerical-data (sn).
MN CATCHMENT-AREA-HEALTH. GREAT-BRITAIN. HUMAN. METHODS.
SUPPORT-NON-U-S-GOVT.
YR 1987.
IS 0035-8797. JV9.
CP ENGLAND (Z1.542.363.300).
IM 8904.
ND ENTRY DATE: 890223.
CLASS UPDATE: 90.

273

AN 89089469. 89000.
AU Rieder-M-J. Hanmer-S-J. Haslam-R-H.
IN University of Western Ontario, London.
TI Pediatric manpower in Canada: a cross-country survey.
SO Can-Med-Assoc-J. 1989 Jan 15. 140(2). P 145-50.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Health care costs and government cutbacks in Canadian training posts
have caused concerns about physician manpower. To determine the
present pediatric manpower situation a cross-country survey was

undertaken of all pediatricians and their practice patterns. Of the 2060 recipients of a questionnaire 5% were found to not be pediatricians. Of the remaining 1960, 69% returned a completed questionnaire. Overall, 70% of the pediatricians were men, although among those less than 35 years of age 49% were women. Across Canada 37% of the pediatricians practised primary care, 25% secondary care and 38% tertiary care. There were wide regional differences in practice patterns, with large numbers of primary care pediatricians in Winnipeg, Toronto, Ottawa and the province of Quebec; few pediatricians in the Maritimes and the remainder of western Canada practised primary care. Non-Canadian graduates accounted for 33% of the pediatricians and represented a considerable proportion of tertiary care pediatricians. Cutbacks in numbers of pediatric training positions and restrictions on immigration of foreign pediatricians may lead to unexpected deficiencies in the availability of some types of pediatric practitioners, especially those in tertiary care. Author-abstract.

MJ PEDIATRICS: manpower (ma).

MN AGED. CANADA. DATA-COLLECTION: instrumentation (is).

DELIVERY-OF-HEALTH-CARE: trends (td). DEMOGRAPHY.

EDUCATION-MEDICAL-GRADUATE. FEMALE. FOREIGN-MEDICAL-GRADUATES.

HUMAN. MALE. *MEDICALLY-UNDERSERVED-AREA.* MIDDLE-AGE. ONTARIO.

PEDIATRICS: education (ed), trends (td). PROFESSIONAL-PRACTICE:

trends (td). QUESTIONNAIRES. SUPPORT-NON-U-S-GOVT.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0008-4409. CKW.

CP CANADA (Z1.107.567.176).

IM 8904.

ND ENTRY DATE: 890221.

274

AN 89076420. 89000.

TI Utilization and employment of speech-language pathology supportive personnel with *underserved* populations.

SO ASHA. 1988 Nov. 30(11). P 55-6.

JT ASHA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ SPEECH-LANGUAGE-PATHOLOGY: manpower (ma).

MN DELIVERY-OF-HEALTH-CARE. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*

YR 1988.

IS 0001-2475. 92G.

CP UNITED-STATES (Z1.107.567.875).

IM 8903.

ND ENTRY DATE: 890117.

CLASS UPDATE: 90.

275

AN 89047969. 89000.
 AU Dennis-T.
 IN Department of Medicine, Hennepin County Medical Center, Minneapolis,
 MN 55415.
 TI Changes in the distribution of physicians in rural areas of
 Minnesota, 1965-85.
 SO Am-J-Public-Health. 1988 Dec. 78(12). P 1577-9.
 JT AMERICAN JOURNAL OF PUBLIC HEALTH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The purpose of this study was to assess changes in the
 physician-population ratio in non-SMSA Minnesota counties between
 1965 and 1985 using county specific data published by the American
 Medical Association. The physician-population ratio actually
 decreased by 2 per cent for primary care physicians and by 11 per
 cent for family practitioners in the non-SMSA counties. The large
 increase in the number of physicians in Minnesota has not translated
 into improved access to primary care physicians in Minnesota's rural
 areas. Author-abstract.
 MJ *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS: supply-and-distribution
 (sd). RURAL-POPULATION.
 MN HUMAN. MINNESOTA. PRIMARY-HEALTH-CARE: manpower (ma).
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1988.
 IS 0090-0036. 3XW.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8902.
 ND ENTRY DATE: 881219.

276

AN 89038878. 89000.
 AU Milner-P. Nicholl-J.
 TI Revising RAWP `letter:.
 SO Lancet. 1988 Nov 19. 2(8621). P 1195.
 JT LANCET.
 PT LETTER (LET).
 LG English (EN).
 MJ HEALTH-RESOURCES: supply-and-distribution (sd).
 MEDICALLY-UNDERSERVED-AREA. MODELS-THEORETICAL.
 MN ENGLAND. HUMAN. RURAL-POPULATION. URBAN-POPULATION.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1988.
 IS 0023-7507. L0S.
 CP ENGLAND (Z1.542.363.300).
 IM 8902.
 ND ENTRY DATE: 881220.
 CLASS UPDATE: 91.

277

AN 89034824. 89000.
TI Meeting the needs for health workers: proportions, prerogatives, and priorities.
SO J-Public-Health-Policy. 1988 Autumn. 9(3). P 309-18.
JT JOURNAL OF PUBLIC HEALTH POLICY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EMPLOYMENT. NURSES: supply-and-distribution (sd).
PHYSICIANS:supply-and-distribution (sd).
MN HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN.
MEDICALLY-UNDERSERVED-AREA. PRIMARY-HEALTH-CARE: manpower (ma).
YR 1988.
IS 0197-5897. HS5.
CP UNITED-STATES (Z1.107.567.875).
IM 8902.
ND ENTRY DATE: 881213.
CLASS UPDATE: 90.

278

AN 89026451. 89000.
AU Smilkstein-G.
TI An evaluation of a community oriented primary care programme for medical students.
SO Asia-Pac-J-Public-Health. 1988. 2(4). P 252-7.
JT ASIA-PACIFIC JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-MEDICINE: education (ed). EDUCATION-MEDICAL.
PRIMARY-HEALTH-CARE.
MN CURRICULUM. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* PROGRAM-EVALUATION.
WASHINGTON.
YR 1988.
IS 1010-5395. ASJ.
CP HONG-KONG (Z1.252.474.363).
IM 8902.
ND ENTRY DATE: 881222.

279

AN 89015402. 89000.
AU Salive-M-E.
TI Shortage of preventive medicine physicians `letter:..
SO N-Y-State-J-Med. 1988 Aug. 88(8). P 441.
JT NEW YORK STATE JOURNAL OF MEDICINE.
PT LETTER (LET).
LG English (EN).
MJ CAREER-CHOICE. PREVENTIVE-MEDICINE: manpower (ma).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
YR 1988.
IS 0028-7628. OBA.
CP UNITED-STATES (Z1.107.567.875).

IM 8901.
ND ENTRY DATE: 881122.
CLASS UPDATE: 91.

280

AN 88332378. 88000.
AU Lawler-T-G. Valand-M-C.
TI Patterns of practice of nurse practitioners in an *underserved* rural region.
SO J-Community-Health-Nurs. 1988. 5(3). P 187-94.
JT JOURNAL OF COMMUNITY HEALTH NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSE-PRACTITIONERS. RURAL-POPULATION.
MN COMMUNITY-HEALTH-NURSING. HUMAN. NORTH-CAROLINA. QUESTIONNAIRES. SUPPORT-U-S-GOVT-P-H-S.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0737-0016. JCH.
CP UNITED-STATES (Z1.107.567.875).
IM 8812.
ND ENTRY DATE: 881021.

281

AN 88321089. 88000.
TI Nurses' working and living conditions sub-standard in remote Far North.
SO Qld-Nurse. 1988 May-Jun. 7(3). P 15.
JT QUEENSLAND NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* NURSES. SOCIAL-CONDITIONS.
MN HUMAN. NURSING-SERVICES: manpower (ma). QUEENSLAND. SOCIETIES-NURSING.
SB Nursing Journals (N).
LI N.
YR 1988.
IS Q91.
CP AUSTRALIA (Z1.338).
IM 8812.
ND ENTRY DATE: 881011.
CLASS UPDATE: 91.

282

AN 88319524. 88000.
AU Clarkson-J-E. Romans-Clarkson-S-E. Walton-V-A. Mullen-P-E.
IN Department of Paediatrics, University of Otago Medical School, Dunedin.

TI Mothers' perceptions of access to medical care for children in Otago.
 SO N-Z-Med-J. 1988 Jun 8. 101(847 Pt 1). P 371-3.
 JT NEW ZEALAND MEDICAL JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Three hundred urban and 350 rural mothers were surveyed about their subjective perceptions of the availability of a doctor for their child. A third of rural mothers and a quarter of urban mothers expressed concern about lack of access. Shared parenting, a high socioeconomic status of mother and her partner and further training on leaving school, were associated with a greater satisfaction with existing services. Mothers with chronic psychiatric morbidity were more likely to express concern. Approximately one quarter of mothers expressed satisfaction with services overall. Specific improvements for child health services included reduced costs and waiting times together with an increase in the range of services available.
 Author-abstract.
 MJ ATTITUDE-TO-HEALTH. CHILD-HEALTH-SERVICES.
 HEALTH-SERVICES-ACCESSIBILITY. MOTHERS: psychology (px).
 MN CHILD. COMPARATIVE-STUDY. FEMALE. HUMAN.
 MEDICALLY-UNDERSERVED-AREA. NEW-ZEALAND. QUESTIONNAIRES.
 RURAL-POPULATION. SAMPLING-STUDIES. SOCIOECONOMIC-FACTORS.
 SUPPORT-NON-U-S-GOVT. URBAN-POPULATION.
 SB Priority Journals (M).
 YR 1988.
 IS 0028-8446. OBQ.
 CP NEW-ZEALAND (Z1.730).
 IM 8812.
 ND ENTRY DATE: 881012.

283

AN 88310692. 88000.
 AU Dongier-M. Kern-H.
 TI Psychiatry in underserved areas and the role of academic departments `editorial:.
 SO Can-J-Psychiatry. 1988 Jun. 33(5). P 334.
 JT CANADIAN JOURNAL OF PSYCHIATRY. REVUE CANADIENNE DE PSYCHIATRIE.
 PT EDITORIAL (EDI).
 LG English (EN).
 MJ *MEDICALLY-UNDERSERVED-AREA.* PSYCHIATRY: manpower (ma).
 RURAL-HEALTH.
 MN CANADA. HUMAN.
 SB Priority Journals (M).
 YR 1988.
 IS 0706-7437. CLR.
 CP CANADA (Z1.107.567.176).
 IM 8812.
 ND ENTRY DATE: 880927.
 CLASS UPDATE: 91.

284

AN 88308312. 88000.
AU Rabinowitz-H-K.
IN Department of Family Medicine, Jefferson Medical College,
Philadelphia, Pa. 19107.
TI The effects of a selective medical school admissions policy on
increasing the number of family physicians in rural and physician
shortage areas.
SO Proc-Annu-Conf-Res-Med-Educ. 1987. 26. P 157-62.
JT PROCEEDINGS OF THE. ANNUAL CONFERENCE ON RESEARCH IN MEDICAL
EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATIONAL-MEASUREMENT. *MEDICALLY-UNDERSERVED-AREA.*
PHYSICIANS-FAMILY: supply-and-distribution (sd). RURAL-HEALTH.
SCHOOL-ADMISSION-CRITERIA. SCHOOLS-MEDICAL.
MN HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1987.
IS 0892-2543. 5X9.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880922.
CLASS UPDATE: 90.

285

AN 88300941. 88000.
AU Ziring-P-R. Kastner-T. Friedman-D-L. Pond-W-S. Barnett-M-L.
Sonnenberg-E-M. Strassburger-K.
IN Columbia University College of Physicians and Surgeons, New York.
TI Provision of health care for persons with developmental disabilities
living in the community. The Morristown model.
SO JAMA. 1988 Sep 9. 260(10). P 1439-44.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Persons with developmental disabilities living in the community have
a greater number and variety of health care needs than the average
population of the same age and sex. The erroneous assumption that
the generic health care system would be able to provide all necessary
services to the large number of individuals recently transferred from
state residential facilities to the community has proved to be an
unexpected disappointment to human service policymakers. In an
effort to remedy this situation, a program of health care services
was established by the New Jersey Department of Human Services at a
community teaching hospital to supplement the existing generic system
of medical care. Within four years, the program had rapidly grown to
provide care for 729 patients who had come to rely on the center for
primary care, specialty medical and dental services, and medical case
management. The demographic characteristics of this program are

described as well as data on morbidity, service utilization, and special problems encountered when care was provided to this complex and *medically* *underserved* population. Author-abstract.

MJ DELIVERY-OF-HEALTH-CARE. MENTAL-RETARDATION.
OUTPATIENT-CLINICS-HOSPITAL.
MN ADOLESCENCE. ADULT. AGED. CHILD. DELIVERY-OF-HEALTH-CARE:
economics (ec). DENTAL-SERVICE-HOSPITAL. FEMALE.
HOSPITALS-TEACHING. HUMAN. MALE. MENTAL-RETARDATION: economics
(ec), genetics (ge). MIDDLE-AGE. NEW-JERSEY. NURSE-PRACTITIONERS.
OUTPATIENT-CLINICS-HOSPITAL: economics (ec), manpower (ma),
organization-and-administration (og). SUPPORT-NON-U-S-GOVT.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1988.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880922.
CLASS UPDATE: 88.

286

AN 88285547. 88000.
AU Enoch-J-M.
IN School of Optometry, University of California, Berkeley 94720.
TI Life span planning for human needs: an international perspective.
SO J-Am-Optom-Assoc. 1988 Apr. 59(4 Pt 1). P 282-4.
JT JOURNAL OF THE AMERICAN OPTOMETRIC ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-SERVICES-NEEDS-AND-DEMAND. HEALTH-SERVICES-RESEARCH.
LONGEVITY. OPTOMETRY. WORLD-HEALTH.
MN DEVELOPING-COUNTRIES. EDUCATION-MEDICAL. HUMAN. INDIA.
INFANT-MORTALITY. *MEDICALLY-UNDERSERVED-AREA.* OPHTHALMOLOGY.
OPTOMETRY: education (ed). POPULATION-GROWTH. UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0003-0244. H82.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880902.
CLASS UPDATE: 90.

287

AN 88278791. 88000.
AU Holmertz-V.
TI `Public health nurse writes out prescriptions:.
TT Distriktsskoterskor far skriva ut recept.
SO Vardfacket. 1988 Mar 24. 12(6). P 14.
JT VARDFACKET.
PT JOURNAL-ARTICLE (ART).

LG Swedish (SS).
MJ PRESCRIPTIONS-DRUG. PUBLIC-HEALTH-NURSING.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* SWEDEN.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0347-0911. X75.
CP SWEDEN (Z1.542.808.843).
IM 8810.
ND ENTRY DATE: 880823.

288

AN 88276159. 88000.
AU Sowell-R. Bramlett-M-H.
TI A collaborative approach to the nursing shortage in rural areas.
SO Nursingconnections. 1988 Summer. 1(2). P 51-61.
JT NURSINGCONNECTIONS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HOSPITALS: manpower (ma). HOSPITALS-RURAL: manpower (ma).
MEDICALLY-UNDERSERVED-AREA. NURSING-STAFF-HOSPITAL:
supply-and-distribution (sd). NURSING-PRACTICAL.
MN CAREER-MOBILITY. COUNSELING. ECONOMICS-HOSPITAL. HUMAN.
SUPPORT-NON-U-S-GOVT. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0895-2809. NUC.
CP UNITED-STATES (Z1.107.567.875).
IM 8810.
ND ENTRY DATE: 880818.
CLASS UPDATE: 90.

289

AN 88271300. 88000.
AU Shorvon-S-D. Farmer-P-J.
IN Institute of Neurology, National Hospital, London, England.
TI Epilepsy in developing countries: a review of epidemiological,
sociocultural, and treatment aspects.
SO Epilepsia. 1988. 29 Suppl 1. P S36-54.
JT EPILEPSIA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB In this report, aspects of epilepsy that differ in developing and in
developed countries are reviewed. This is inevitably an incomplete
and impressionistic survey, because data on many aspects in
developing countries are scarce, and because it is difficult to
generalise meaningfully about the enormous diversity of countries and
populations that make up the developing world. Epidemiological
studies of prevalence and incidence are reviewed with an emphasis on

the problems inherent in work in this area in developing countries. Data concerning seizure type, aetiology, and severity of seizures in the Third World are contrasted with those from developed countries. Sociocultural aspects of epilepsy have been poorly studied, and yet are fundamental to effective medical management. The social effects of epilepsy and the local perceptions of cause and of treatment are discussed from work in Africa, Asia, and South America. The principles and success of treatment in the Third World may differ considerably in developing and developed countries. In the Third World, medical manpower is scarce, and epilepsy is managed essentially by primary care resources, without specialised investigations or personnel. The principles of drug therapy may not be understood by patients, and the supply of drugs is often erratic; and these are major reasons for poor compliance with treatment. World Health Organisation (WHO) initiatives have stressed the extensive use of paramedical personnel and of an essential drugs list, but this emphasis may be misdirected, and in practice neither proposal has achieved much success. The recommendation that phenobarbital be extensively used in the Third World, because of its cheapness and efficacy, is also of doubtful merit, as there are well-known and major drawbacks to the widespread use of this drug. Computations of treatment gap figures in three developing countries suggest that between 80-94% of patients with active epilepsy are not receiving anticonvulsant therapy, and cost is only one of a number of reasons for this. The key to improvements in medical treatment lie with a better understanding of the patients' cultural concepts of epilepsy and its treatment, improved drug supply and availability, and efforts to improve education amongst general practitioners and other primary care medical personnel. Author-abstract. 78 Refs.

MJ DEVELOPING-COUNTRIES. EPILEPSY: epidemiology (ep).
SOCIAL-CONDITIONS.

MN ANTICONVULSANTS: administration-and-dosage (ad), therapeutic-use (tu). ATTITUDE-TO-HEALTH. EPILEPSY: etiology (et), therapy (th).
HUMAN. *MEDICALLY-UNDERSERVED-AREA.* SOCIAL-PROBLEMS.
SUPPORT-NON-U-S-GOVT. WORLD-HEALTH-ORGANIZATION.

RN 0 -- Anticonvulsants.

SB Priority Journals (M).

YR 1988.

IS 0013-9580. EIX.

CP UNITED-STATES (Z1.107.567.875).

IM 8810.

ND ENTRY DATE: 880817.

CLASS UPDATE: 91.

290

AN 88258562. 88000.

AU Lee-R-V.

IN Department of Medicine, Children's Hospital of Buffalo, New York
14222.

TI Too bad toubab: or, doing good in Mali.

SO J-Clin-Epidemiol. 1988. 41(6). P 607-10.
 JT JOURNAL OF CLINICAL EPIDEMIOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ DEVELOPING-COUNTRIES. FOREIGN-MEDICAL-GRADUATES.
 MEDICALLY-UNDERSERVED-AREA.
 MN CHILD. CULTURAL-CHARACTERISTICS. FEMALE. GEOGRAPHY.
 HEALTH-SERVICES: supply-and-distribution (sd). HEALTH-SURVEYS.
 HUMAN. MALI. NATURAL-DISASTERS.
 SB Priority Journals (M).
 YR 1988.
 IS 0895-4356. JCE.
 CP ENGLAND (Z1.542.363.300).
 IM 8810.
 ND ENTRY DATE: 880810.
 CLASS UPDATE: 90.

291

AN 88251797. 88000.
 AU Chen-P-C.
 TI Developing primary health care for a nomad tribe: the Penans of the
 Baram.
 SO Asia-Pac-J-Public-Health. 1987. 1(1). P 34-7.
 JT ASIA-PACIFIC JOURNAL OF PUBLIC HEALTH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ETHNIC-GROUPS. LIFE-STYLE. PRIMARY-HEALTH-CARE:
 organization-and-administration (og).
 MN COMMUNITY-HEALTH-AIDES. HUMAN. MALAYSIA.
 MEDICALLY-UNDERSERVED-AREA: manpower (ma). SUPPORT-NON-U-S-GOVT.
 YR 1987.
 IS 1010-5395. ASJ.
 CP HONG-KONG (Z1.252.474.363).
 IM 8810.
 ND ENTRY DATE: 880809.

292

AN 88251795. 88000.
 AU Roemer-M-I.
 TI Health manpower allocation in developing countries.
 SO Asia-Pac-J-Public-Health. 1987. 1(1). P 20-4.
 JT ASIA-PACIFIC JOURNAL OF PUBLIC HEALTH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ DEVELOPING-COUNTRIES. HEALTH-MANPOWER: supply-and-distribution
 (sd).
 MN COMMUNITY-HEALTH-AIDES: supply-and-distribution (sd). HUMAN.
 MEDICALLY-UNDERSERVED-AREA: manpower (ma). MOTIVATION.
 PUBLIC-POLICY.
 YR 1987.

IS 1010-5395. ASJ.
CP HONG-KONG (Z1.252.474.363).
IM 8810.
ND ENTRY DATE: 880809.

293

AN 88243073. 88000.
AU Clemens-C-J.
TI Perspectives: a medical student.
SO Health-Aff (Millwood). 1988. 7(2 Suppl). P 66-9.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-MEDICAL: standards (st).
MN EDUCATION-MEDICAL: trends (td). FACULTY-MEDICAL.
FOREIGN-MEDICAL-GRADUATES. HUMAN. *MEDICALLY-UNDERSERVED-AREA:*
manpower (ma). TEACHING: methods (mt). UNITED-STATES.
YR 1988.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880718.

294

AN 88236004. 88000.
AU Botha-J-L. Bradshaw-D. Gonin-R. Yach-D.
IN Institute for Biostatistics, SA Medical Research Council, Tygerberg,
South Africa.
TI The distribution of health needs and services in South Africa.
SO Soc-Sci-Med. 1988. 26(8). P 845-51.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The authors recognize that social, economic and political factors
play a larger role in determining public health policy than do
epidemiological principles such as the analysis of needs, demand and
supply. Nevertheless, demographic and mortality statistics,
information from the 1983 registers of medical and dental
practitioners, and that of nurses, as well as information on hospital
beds were reviewed to describe health care requirements and resources
in South Africa. The maldistribution observed in health needs and
services closely parallel the divisions in South African society
imposed by the apartheid policy. It is concluded that fundamental
political change is required to reduce this maldistribution. The
provision of preventive and promotive health services for children in
African rural and peri-urban areas was identified as a health care
requirement of high priority. It is thought that the need in these
geographical regions might best be met by employing primary health
care workers at a lower level of training than doctors with an
accessible, supporting referral system. In addition, the quality of

health care data being collected needs to be improved. It is suggested that both these problems be approached on a regional basis, and preferably under a single health authority, rather than the current fragmented health service. Author-abstract.

MJ HEALTH-RESOURCES: supply-and-distribution (sd).

HEALTH-SERVICES-ACCESSIBILITY.

MN DEMOGRAPHY. HEALTH-POLICY. HEALTH-SERVICES-NEEDS-AND-DEMAND.

HEALTH-STATUS. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* MORTALITY.

POLITICAL-SYSTEMS. REGISTRIES. RURAL-HEALTH. SOUTH-AFRICA.

URBAN-HEALTH.

SB Priority Journals (M).

YR 1988.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 8809.

ND ENTRY DATE: 880628.

CLASS UPDATE: 90.

295

AN 88230399. 88000.

AU Verby-J-E.

IN Department of Family Practice and Community Health, University of Minnesota Medical School, Minneapolis.

TI The Minnesota Rural Physician Associate Program for medical students.

SO J-Med-Educ. 1988 Jun. 63(6). P 427-37.

JT JOURNAL OF MEDICAL EDUCATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The Rural Physician Associate Program (RPAP) at the University of Minnesota Medical School is a clinical education experience for third-year students that lasts nine to 12 months. In 1970 the Minnesota legislature required the medical school faculty to find an educational method to redistribute physicians into the *medically* *underserved* rural areas of Minnesota or lose state funds for the medical school. After 16 years of the program, all 87 counties in Minnesota have an acceptable ratio of general physicians for the first time in the state's history. RPAP students work directly with and are supervised by general physicians practicing in rural areas; these preceptors have an average age of 40 years, are board-certified, and have 12 years of clinical experience. They give their teaching services and a \$2,500 stipend to the student; the state provides \$7,000 to the student with no obligation that the student practice in rural Minnesota after training. The preceptors, RPAP staff members, and visiting university faculty members provide 50, 30, and 20 percent, respectively, of a student's grades for the program; the student receives six months of credit for the program. As of 1986, 57 percent of the former RPAP students in practice were practicing in rural communities, with a majority in Minnesota and a majority in towns with populations less than 10,000.

Author-abstract.

MJ CLINICAL-CLERKSHIP. EDUCATION-MEDICAL-UNDERGRADUATE.
FAMILY-PRACTICE: education (ed). RURAL-HEALTH.
MN ADULT. CURRICULUM. EDUCATIONAL-MEASUREMENT. HUMAN.
MEDICALLY-UNDERSERVED-AREA. MINNESOTA. ORGANIZATIONAL-OBJECTIVES.
PRECEPTORSHIP. STUDENTS-MEDICAL. TRAINING-SUPPORT.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1988.
IS 0022-2577. J13.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880630.
CLASS UPDATE: 90.

296

AN 88230142. 88000.
AU Hardy-D-M. Lile-M.
TI Rural health clinics: up for ownership.
SO J-Pediatr-Health-Care. 1988 May-Jun. 2(3). P 153-4.
JT JOURNAL OF PEDIATRIC HEALTH CARE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHILD-HEALTH-SERVICES: organization-and-administration (og).
NURSE-PRACTITIONERS. RURAL-HEALTH.
MN CHILD. CHILD-HEALTH-SERVICES: manpower (ma). HUMAN.
MEDICALLY-UNDERSERVED-AREA. OWNERSHIP. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0891-5245. JML.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880701.

297

AN 88217841. 88000.
AU Gurrell-P.
TI Nursing shortage: psychiatric nursing.
SO Pro-Re-Nata. 1988 Mar-Apr. 10(2). P 1-4.
JT PRO RE NATA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NURSING: manpower (ma). PSYCHIATRIC-NURSING.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UTAH.
SB Nursing Journals (N).
LI N.
YR 1988.
IS PRR.
CP UNITED-STATES (Z1.107.567.875).
IM 8808.
ND ENTRY DATE: 880623.

298

AN 88160199. 88000.
AU Viste-K-M Jr.
TI Rural health initiative nears completion.
SO Wis-Med-J. 1988 Feb. 87(2). P 5-6.
JT WISCONSIN MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ RURAL-HEALTH: trends (td).
MN AGED. HUMAN. *MEDICALLY-UNDERSERVED-AREA.* WISCONSIN.
YR 1988.
IS 0043-6542. XPJ.
CP UNITED-STATES (Z1.107.567.875).
IM 8806.
ND ENTRY DATE: 880412.

299

AN 88149747. 88000.
AU Simmons-J. Malone-D-R.
TI Public school speech-language pathologists needed in Arizona, Colorado, New Mexico, and Utah.
SO ASHA. 1988 Feb. 30(2). P 39-41.
JT ASHA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* SCHOOLS. SPEECH-LANGUAGE-PATHOLOGY: manpower (ma).
MN ARIZONA. COLORADO. HUMAN. NEW-MEXICO. UTAH.
YR 1988.
IS 0001-2475. 92G.
CP UNITED-STATES (Z1.107.567.875).
IM 8806.
ND ENTRY DATE: 880329.
CLASS UPDATE: 90.

300

AN 88127979. 88000.
AU DeWind-C-M.
TI Treatment of acute oesophageal variceal bleeding by transgastric ligation `letter:.
SO Trop-Doct. 1988 Jan. 18(1). P 29.
JT TROPICAL DOCTOR.
PT LETTER (LET).
LG English (EN).
MJ ESOPHAGEAL-AND-GASTRIC-VARICES: surgery (su).
GASTROINTESTINAL-HEMORRHAGE: surgery (su). PUBLISHING.
MN HUMAN. LIGATION: methods (mt). *MEDICALLY-UNDERSERVED-AREA.*
YR 1988.
IS 0049-4755. WGC.

CP ENGLAND (Z1.542.363.300).
IM 8805.
ND ENTRY DATE: 880315.
CLASS UPDATE: 91.

301

AN 88123309. 88000.
AU Geehr-E-C. Nybo-K-T. Kiernan-G. Kent-M-J.
TI New York State emergency department physician survey. Implications
for graduate medical education.
SO N-Y-State-J-Med. 1988 Jan. 88(1). P 7-10.
JT NEW YORK STATE JOURNAL OF MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-MEDICAL-GRADUATE. EMERGENCY-MEDICINE: manpower (ma).
EMERGENCY-SERVICE-HOSPITAL: manpower (ma). HEALTH-SURVEYS.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* NEW-YORK. SPECIALTY-BOARDS.
SUPPORT-NON-U-S-GOVT.
YR 1988.
IS 0028-7628. OBA.
CP UNITED-STATES (Z1.107.567.875).
IM 8805.
ND ENTRY DATE: 880318.
CLASS UPDATE: 90.

302

AN 88106000. 88000.
TI The challenges of rural nursing.
SO Ariz-Nurse. 1987 Jul-Aug. 40(4). P 1, 13-4.
JT ARIZONA NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NURSE-PRACTITIONERS. RURAL-HEALTH.
MN ARIZONA. HUMAN. *MEDICALLY-UNDERSERVED-AREA.*
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0004-1599. 8NB.
CP UNITED-STATES (Z1.107.567.875).
IM 8804.
ND ENTRY DATE: 880205.

303

AN 88098576. 88000.
AU Zavala-E.
TI `Physicians without frontiers in Ethiopia (letter):.
TT Medicos sin fronteras en Etiopia.
SO Rev-Esp-Anestesiol-Reanim. 1987 Nov-Dec. 34(6). P 469-70.
JT REVISTA ESPANOLA DE ANESTESIOLOGIA Y REANIMACION.
PT LETTER (LET).

LG Spanish (SP).
MJ ANESTHESIA. *MEDICALLY-UNDERSERVED-AREA.* SURGERY-OPERATIVE.
MN ETHIOPIA. HUMAN. POVERTY-AREAS.
YR 1987.
IS 0034-9356. RSX.
CP SPAIN (Z1.542.846).
IM 8804.
ND ENTRY DATE: 880220.
CLASS UPDATE: 91.

304

AN 88096817. 88000.
AU McCoy-M-B.
TI Reaching the unreached.
SO Nurs-J-India. 1987 Jul. 78(7). P 173-5, 196.
JT NURSING JOURNAL OF INDIA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MEDICALLY-UNDERSERVED-AREA.* PRIMARY-HEALTH-CARE.
MN COMMUNICABLE-DISEASE-CONTROL. HUMAN. INDIA.
WORLD-HEALTH-ORGANIZATION.
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0029-6503. 097.
CP INDIA (Z1.252.245.393).
IM 8804.
ND ENTRY DATE: 880224.

305

AN 88095595. 88000.
AU Creighton-H.
TI National Health Service Corps: scholarship pay-back service penalty valid.
SO Nurs-Manage. 1987 Dec. 18(12). P 14, 16, 18.
JT NURSING MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-NURSING-BACCALAUREATE: legislation-and-jurisprudence (lj).
FELLOWSHIPS-AND-SCHOLARSHIPS. *MEDICALLY-UNDERSERVED-AREA.*
MN HUMAN. MICHIGAN. SOCIAL-RESPONSIBILITY.
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0744-6314. OBV.
CP UNITED-STATES (Z1.107.567.875).
IM 8804.
ND ENTRY DATE: 880205.

306

AN 88069068. 88000.
 AU Nichols-A-W. Silverstein-G.
 IN University of Arizona College of Medicine, Tucson.
 TI Financing medical care for the *underserved* in an era of Federal
 retrenchment: the health service district.
 SO Public-Health-Rep. 1987 Nov-Dec. 102(6). P 686-91.
 JT PUBLIC HEALTH REPORTS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Federal funding programs have, since the 1960s, been available in a
 variety of forms to deal with problems of access to medical care for
 the *medically* *underserved.* Certain programs, such as the National
 Health Service Corps, have recently pulled back from their points of
 maximal impact in terms of numbers of obligated physicians in the
 field. This change leaves a need for greater contributions by State
 and local entities in the face of Federal retrenchment. The health
 service district (HSD) is one such mechanism for filling the gap. It
 has been available under this name in Arizona law since 1977, but the
 first such district in the State is only now under development in a
 small copper mining community. Similar to school districts in
 concept, the HSDs allow residents in their catchment areas to tax
 themselves for the purpose of delivering primary health care. Two
 successful HSDs--or similar entities--in other States are described.
 One program is in Stickney, IL, and other in Condon, OR. The
 political success and financial viability of the Condon program are
 documented. Author-abstract.
 MJ CATCHMENT-AREA-HEALTH: economics (ec). FINANCING-GOVERNMENT.
 MEDICALLY-UNDERSERVED-AREA.
 MN ARIZONA. CATCHMENT-AREA-HEALTH: legislation-and-jurisprudence (lj).
 HUMAN. ILLINOIS. OREGON. PRIMARY-HEALTH-CARE: economics (ec),
 manpower (ma). TAXES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1987.
 IS 0033-3549. QJA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8803.
 ND ENTRY DATE: 880115.
 LAST REVISION DATE: 920624.
 CLASS UPDATE: 91.

307

AN 88064591. 88000.
 AU Carroll-E. Dwyer-L.
 TI Causes of the nursing shortage in NSW: a framework for discussion.
 SO Lamp. 1987 Aug. 44(6). P 17-21.
 JT LAMP.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *MEDICALLY-UNDERSERVED-AREA.* NURSING: manpower (ma).
 MN HUMAN. JOB-SATISFACTION. NEW-SOUTH-WALES. NURSING-CARE.

SB Nursing Journals (N).
LI N.
YR 1987.
IS 0047-3936. L0P.
CP AUSTRALIA (Z1.338).
IM 8803.
ND ENTRY DATE: 880106.
LAST REVISION DATE: 880822.

308

AN 88057089. 88000.
AU Stucki-K.
TI The nursing shortage from the recruiter's viewpoint.
SO Imprint. 1987 Nov. 34(4). P 42.
JT IMPRINT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NURSING: manpower (ma). NURSING-STAFF: supply-and-distribution (sd).
PERSONNEL-MANAGEMENT. PERSONNEL-SELECTION.
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0019-3062. GHC.
CP UNITED-STATES (Z1.107.567.875).
IM 8803.
ND ENTRY DATE: 880115.
CLASS UPDATE: 90.

309

AN 88057085. 88000.
AU Schoettle-M-A.
TI Nursing shortage; nursing crisis--national problem.
SO Imprint. 1987 Nov. 34(4). P 27-31.
JT IMPRINT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NURSING: manpower (ma).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0019-3062. GHC.
CP UNITED-STATES (Z1.107.567.875).
IM 8803.
ND ENTRY DATE: 880115.

310

AN 88018181. 88000.
AU Barton-S-N. Coombs-D-W. Miller-H-L. Hughes-G-H. Cutter-G.

IN School of Public Health, University of Alabama, Birmingham 35294.
 TI Comparison of hypertension prevalence and control in 5,237 rural and urban Alabama residents.
 SO South-Med-J. 1987 Oct. 80(10). P 1220-3.
 JT SOUTHERN MEDICAL JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Selected urban and rural Alabama populations were compared by age, sex, and race on the prevalence of hypertension and uncontrolled hypertension and the percentage of treated hypertensives with controlled blood pressure. We found the following results: (1) Rural women had a significantly higher prevalence of hypertension than urban women. (2) The prevalence of uncontrolled hypertension was significantly higher for urban white men than for their rural counterparts. (3) The prevalence of uncontrolled hypertension was significantly higher for rural black women aged 30 to 39 than for the same age group of urban black women. (4) Rural dwellers generally had much better blood pressure control than urban, though this was not manifested evenly across groups. Statistically significant differences were found for white men and women of all ages combined and in three of four age groups. Reasons for the rural-urban differences are unclear, but the rural area surveyed was served by nurse practitioner clinics that strongly emphasized patient education. Author-abstract.
 MJ HEALTH. HYPERTENSION: epidemiology (ep). RURAL-HEALTH. URBAN-HEALTH.
 MN ADULT. AGE-FACTORS. AGED. ALABAMA. BLOOD-PRESSURE. CAUCASOID-RACE. COMPARATIVE-STUDY. FEMALE. HUMAN. HYPERTENSION: physiopathology (pp), therapy (th). MALE.
 MEDICALLY-UNDERSERVED-AREA. MIDDLE-AGE. NEGROID-RACE. SEX-FACTORS. SUPPORT-U-S-GOVT-P-H-S.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1987.
 IS 0038-4348. UVH.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8801.
 ND ENTRY DATE: 871119.
 CLASS UPDATE: 90.
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311

AN 88015940. 88000.
 AU Styles-M-M.
 TI Nursing shortage symptomatic of changes in health care.
 SO Prairie-Rose. 1987 Apr-Jun. 56(2). P 7.
 JT PRAIRIE ROSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ DELIVERY-OF-HEALTH-CARE: trends (td). NURSING-SERVICE-HOSPITAL:

manpower (ma).
MN HUMAN. *MEDICALLY-UNDERSERVED-AREA.* UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1987.
IS 0032-6666. PHW.
CP UNITED-STATES (Z1.107.567.875).
IM 8801.
ND ENTRY DATE: 871027.

312

AN 88011165. 88000.
AU Adkins-R-J. Anderson-G-R. Cullen-T-J. Myers-W-W. Newman-F-S.
Schwarz-M-R.
IN Washington State University, Pullman.
TI Geographic and specialty distributions of WAMI Program participants
and nonparticipants.
SO J-Med-Educ. 1987 Oct. 62(10). P 810-7.
JT JOURNAL OF MEDICAL EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In an effort to make the geographic distribution of physicians closer
to the distribution of the population as a whole, in 1971 the states
of Washington, Alaska, Montana, and Idaho established the WAMI
Program. In a departure from the Flexnerian model of medical
education, the WAMI Program was organized to distribute the
components of medical education throughout the region, both at the
medical center at the University of Washington School of Medicine and
at remote sites. In the present article, the authors describe the
results of the first seven years of the program (1975-1981) in terms
of the geographic and specialty distribution of the school's
graduates before and after the establishment of the program. At the
time of the study, 23 percent of the graduates with WAMI Program
experience practiced in nonmetropolitan areas as defined by the U.S.
Bureau of the Census. Only 13 percent of all U.S. physicians
practiced in such areas in 1981, while 24 percent of the U.S.
population lived there. In addition, 61 percent of the graduates
with program experience were in primary care practice in contrast to
35 percent of all U.S. physicians. If all U.S. physicians behaved
as these graduates do, the distribution of U.S. physicians would be
reversed, with the proportion of physicians practicing primary care
in nonmetropolitan areas being larger than the proportion of the
population living in those areas. Author-abstract.
MJ EDUCATION-MEDICAL. *MEDICALLY-UNDERSERVED-AREA.* PHYSICIANS:
supply-and-distribution (sd). SPECIALTIES-MEDICAL.
MN ALASKA. CLINICAL-CLERKSHIP. HUMAN. IDAHO. MONTANA.
PROFESSIONAL-PRACTICE-LOCATION. SUPPORT-NON-U-S-GOVT. WASHINGTON.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1987.
IS 0022-2577. J13.

CP UNITED-STATES (Z1.107.567.875).

IM 8801.

ND ENTRY DATE: 871117.

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1

AN 89381815. 89000.

AU Graham-S-R.

TI The myth of *managed* *care.*

SO J-N-J-Dent-Assoc. 1988 Aug. 59(4). P 75.

JT JOURNAL OF THE NEW JERSEY DENTAL ASSOCIATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE.* ETHICS-MEDICAL. INSURANCE-HEALTH.
MANAGED-CARE-PROGRAMS.

MN HUMAN.

SB Dental Journals (D).

LI D.

YR 1988.

IS 0093-7347. JDP.

CP UNITED-STATES (Z1.107.567.875).

IM 8912.

ND ENTRY DATE: 891025.

CLASS UPDATE: 90.

2

AN 89330410. 89000.

AU Rosenbaum-S. Hughes-D. Butler-E. Howard-D.

IN University of California, Los Angeles.

TI Incantations in the dark: Medicaid, *managed* *care,* and maternity *care.*

SO Milbank-Q. 1988. 66(4). P 661-93.

JT MILBANK QUARTERLY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Public program reforms in the 1980s have substantially increased the numbers of poor pregnant women potentially eligible for Medicaid coverage. Structural deficiencies in the Medicaid program, together with inadequate arrangements in *managed-care* plans, however, have not led to generally acceptable levels of maternity *care.* Demonstration projects indicate that Medicaid can be modified cost effectively to underwrite early, continuous, and comprehensive *care* delivery. Recommendations are suggested for eligibility guarantees, enrollment safeguards, benefit and treatment protocols, provider recruitment, quality control, and sufficient payment rates to overcome barriers to adequate levels of material health *care.* Author-abstract.

MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).

MANAGED-CARE-PROGRAMS: organization-and-administration (og).

MATERNAL-HEALTH-SERVICES: economics (ec). MEDICAID:
organization-and-administration (og).

MN ELIGIBILITY-DETERMINATION. FEES-AND-CHARGES. FEMALE. HUMAN.

POVERTY. PREGNANCY. QUALITY-CONTROL. UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0887-378X. M9Q.
CP UNITED-STATES (Z1.107.567.875).
IM 8911.
ND ENTRY DATE: 890907.
CLASS UPDATE: 90.

3

AN 89188799. 89000.
AU Maurer-W-J.
TI Understanding *managed* *care.*
SO Wis-Med-J. 1988 Dec. 87(12). P 31-2.
JT WISCONSIN MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td).
HEALTH-MAINTENANCE-ORGANIZATIONS: trends (td). INSURANCE-HEALTH:
trends (td). *MANAGED-CARE-PROGRAMS:* trends (td).
PREFERRED-PROVIDER-ORGANIZATIONS: trends (td).
MN HUMAN. WISCONSIN.
YR 1988.
IS 0043-6542. XPJ.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890510.
CLASS UPDATE: 90.

4

AN 89183103. 89000.
AU Kerr-M-H. Birk-J-M.
IN Connecticut Community *Care,* Inc, Bristol 06100.
TI A client-centered case management model.
SO QRB-Qual-Rev-Bull. 1988 Sep. 14(9). P 279-83.
JT QRB. QUALITY REVIEW BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In a client-centered case management model, the case manager's
personal relationships with the client and caregiver help the case
manager to effectively assess the client's needs, coordinate needed
care, and monitor services provided. At Connecticut Community *Care,*
Inc (CCCI), case management is a six-step process that includes
referral, assessment, *care* planning, service coordination,
monitoring, and documentation. The program is particularly notable
for its use of a structured, comprehensive assessment tool and a case
management team consisting of a nurse and a social service
professional. Author-abstract.
MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
LONG-TERM-CARE: organization-and-administration (og).

MANAGED-CARE-PROGRAMS: organization-and-administration (og).
MN CONNECTICUT. DOCUMENTATION. HUMAN. *MANAGED-CARE-PROGRAMS:*
standards (st). MODELS-THEORETICAL. *PATIENT-CARE-PLANNING.*
QUALITY-ASSURANCE-HEALTH-CARE. REFERRAL-AND-CONSULTATION.
SB Priority Journals (M).
YR 1988.
IS 0097-5990. OKP.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890503.
CLASS UPDATE: 91.

5

AN 89181375. 89000.
AU Kizilos-P-J.
TI Physicians on the run.
SO Minn-Med. 1988 Dec. 71(12). P 762-7.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. HEALTH-MAINTENANCE-ORGANIZATIONS:
trends (td). INSURANCE-HEALTH: trends (td).
PREFERRED-PROVIDER-ORGANIZATIONS: trends (td).
QUALITY-ASSURANCE-HEALTH-CARE: trends (td).
MN HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td). MINNESOTA.
YR 1988.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890504.
CLASS UPDATE: 90.

6

AN 89181372. 89000.
AU Morrow-G-T 2d.
TI The health *care* manager of the future: the consumer.
SO Minn-Med. 1988 Dec. 71(12). P 748-52.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONSUMER-SATISFACTION: trends (td). *DELIVERY-OF-HEALTH-CARE:* trends
(td). HEALTH-MAINTENANCE-ORGANIZATIONS: trends (td).
MANAGED-CARE-PROGRAMS: trends (td).
MN HUMAN. MINNESOTA.
YR 1988.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890504.
CLASS UPDATE: 90.

7

AN 89156383. 89000.
AU Boyle-K.
TI How to decide which *managed* health *care* plans to offer.
SO Indiana-Med. 1988 Nov. 81(11). P 965-6.
JT INDIANA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* *MANAGED-CARE-PROGRAMS.*
MN HUMAN. INDIANA. PRACTICE-MANAGEMENT-MEDICAL.
YR 1988.
IS 0746-8288. IDA.
CP UNITED-STATES (Z1.107.567.875).
IM 8906.
ND ENTRY DATE: 890418.
CLASS UPDATE: 90.

8

AN 89154241. 89000.
AU Weller-C-D.
TI Clarifying the competition strategy `letter:.
SO Health-Aff (Millwood). 1988 Winter. 7(5). P 173-4.
JT HEALTH AFFAIRS.
PT LETTER (LET).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). ECONOMIC-COMPETITION.
ECONOMICS. HEALTH-MAINTENANCE-ORGANIZATIONS: economics (ec).
MANAGED-CARE-PROGRAMS: economics (ec).
MN HUMAN. UNITED-STATES.
YR 1988.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 8906.
ND ENTRY DATE: 890418.
CLASS UPDATE: 91.

9

AN 89153961. 89000.
AU Williams-T-F.
TI Research and *care:* essential partners in aging.
SO Gerontologist. 1988 Oct. 28(5). P 579-85.
JT GERONTOLOGIST.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ AGING. HEALTH-SERVICES-FOR-THE-AGED.
MN AGED. AGED-80-AND-OVER. HUMAN. *MANAGED-CARE-PROGRAMS.* RESEARCH.
UNITED-STATES.
YR 1988.
IS 0016-9013. FP5.

CP UNITED-STATES (Z1.107.567.875).
IM 8906.
ND ENTRY DATE: 890414.
CLASS UPDATE: 90.

10

AN 89128109. 89000.
AU Davies-A-R.
TI Hot buttons and pressure *points--managed* *care.*
SO Ohio-Med. 1988 Dec. 84(12). P 924-5.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* FRUSTRATION. *MANAGED-CARE-PROGRAMS.*
PRACTICE-MANAGEMENT-MEDICAL.
MN HUMAN. LENGTH-OF-STAY. PATIENT-ADMISSION.
YR 1988.
IS 0892-2454. OHI.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890322.
CLASS UPDATE: 90.

11

AN 89112728. 89000.
AU Weisman-E.
TI *Managed* *care:* delivering quality and value.
SO QRB-Qual-Rev-Bull. 1988 Dec. 14(12). P 372-4.
JT QRB. QUALITY REVIEW BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). *MANAGED-CARE-PROGRAMS:* trends
(td). *QUALITY-ASSURANCE-HEALTH-CARE:* trends (td).
MN FEES-MEDICAL: trends (td). HUMAN. PHYSICIAN-INCENTIVE-PLANS: trends
(td). UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0097-5990. OKP.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890228.
CLASS UPDATE: 91.

12

AN 89106226. 89000.
AU Field-C-S.
TI An expert's perspective on *managed* health *care* and dentistry.
SO CDS-Rev. 1988 May. 81(4). P 24-5.
JT CDS REVIEW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). INSURANCE-DENTAL.
MANAGED-CARE-PROGRAMS: trends (td).
MN HUMAN.
SB Dental Journals (D).
LI D.
YR 1988.
IS 0091-1666. CQ7.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890309.
CLASS UPDATE: 90.

13

AN 89096717. 89000.
AU Benjamin-A-E.
IN University of California, San Francisco.
TI Long-term *care* and AIDS: perspectives from experience with the elderly.
SO Milbank-Q. 1988. 66(3). P 415-43.
JT MILBANK QUARTERLY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The driving concern of policy thinking in regard to both the elderly and AIDS patients has been cost containment. It has been presumed that the best way to cut costs, as well as to serve the medical and emotional needs of AIDS patients, is to limit hospital and nursing home stays and expand the role of community-based services. The experience of the elderly has demonstrated, however, that these services have had little impact on the use of institutional *care,* only limited outcome benefits, and have not reduced the overall costs; rather, they have increased the utilization of all services and total expenditures. In the case of AIDS patients, a preoccupation with community *care* alternatives to hospitalization fails to acknowledge the central role of medical *care* in the management of the disease. Author-abstract. 93 Refs.
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: therapy (th). HEALTH-POLICY.
LONG-TERM-CARE: organization-and-administration (og).
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: economics (ec). CHRONIC-DISEASE: therapy (th). COMMUNITY-HEALTH-SERVICES: utilization (ut).
HOSPICES: economics (ec). HUMAN. LENGTH-OF-STAY.
MANAGED-CARE-PROGRAMS. MEDICARE. NURSING-HOMES: utilization (ut).
UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0887-378X. M9Q.
CP UNITED-STATES (Z1.107.567.875).
IM 8904.
ND ENTRY DATE: 890223.
CLASS UPDATE: 91.

14

AN 89032585. 89000.
AU Hurley-R-E. Freund-D-A.
IN Department of Health Policy and Administration, Pennsylvania State University, University Park 16802.
TI Determinants of provider selection or assignment in a mandatory case management program and their implications for utilization.
SO Inquiry. 1988 Fall. 25(3). P 402-10.
JT INQUIRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Mandatory *managed-care* programs for Medicaid beneficiaries typically require enrollees to select the provider who will act as gatekeeper to the medical *care* system. A substantial number of beneficiaries, however, do not exercise this choice and are assigned a gatekeeper. Using consumer survey data from the Missouri *Managed* Health *Care* Project, we examined characteristics and use experiences of assignees compared with selectors. We found that the assignees enjoyed better health than the selectors and were less likely to have had a regular source of *care* prior to the program. The utilization experience was similar for both groups. We conclude that the basis for not making a choice is one of indifference. Author-abstract.
MJ ATTITUDE-TO-HEALTH. *DELIVERY-OF-HEALTH-CARE:* utilization (ut). HEALTH-SERVICES: utilization (ut). *MANAGED-CARE-PROGRAMS:* utilization (ut). MEDICAID: organization-and-administration (og).
MN ADULT. CONSUMER-PARTICIPATION. FEMALE. HEALTH-STATUS. HUMAN. MISSOURI. QUESTIONNAIRES. REGRESSION-ANALYSIS. UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0046-9580. GOT.
CP UNITED-STATES (Z1.107.567.875).
IM 8902.
ND ENTRY DATE: 881222.
CLASS UPDATE: 92.

15

AN 89015832. 89000.
AU Parker-M. Secord-L-J.
IN Center for Aging and Long Term *Care* InterStudy, Excelsior, Minnesota 55331.
TI Private geriatric case management: current trends and future directions.
SO QRB-Qual-Rev-Bull. 1988 Jul. 14(7). P 209-14.
JT QRB. QUALITY REVIEW BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Private geriatric case management is a means of meeting the complex service needs of older persons who do not qualify for publicly funded programs or who seek services that the public sector does not provide. InterStudy surveyed 117 private case management firms and

compiled a profile of service providers and their clients, types of services offered, fees charged, and other information. The study raises issues about access to and the quality of case management and other services for the elderly. Author-abstract.

MJ *DELIVERY-OF-HEALTH-CARE:* statistics-and-numerical-data (sn).
GERIATRICS: organization-and-administration (og).
HEALTH-SERVICES-FOR-THE-AGED: organization-and-administration (og).
MANAGED-CARE-PROGRAMS: statistics-and-numerical-data (sn).
PRIVATE-PRACTICE: trends (td).
MN AGED. AGED-80-AND-OVER. DATA-COLLECTION.
HEALTH-SERVICES-ACCESSIBILITY. HUMAN. MINNESOTA.
REFERRAL-AND-CONSULTATION.
SB Priority Journals (M).
YR 1988.
IS 0097-5990. OKP.
CP UNITED-STATES (Z1.107.567.875).
IM 8901.
ND ENTRY DATE: 881121.
CLASS UPDATE: 91.

16

AN 88335729. 88000.
AU Zander-K.
IN Center for Nursing Case Management, New England Medical Center,
Boston, Massachusetts.
TI Nursing case management. Resolving the DRG paradox.
SO Nurs-Clin-North-Am. 1988 Sep. 23(3). P 503-20.
JT NURSING CLINICS OF NORTH AMERICA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Nursing Case Management as described here was developed in an ideal conditions: a full census, a 30 per cent increase in patient volume over five years, a nursing shortage, no grants or outside funding, no clinical specialists or clinical ladder, and no computerized documentation system. No more staff or salary was added as we focused our attention on the new tools, roles, and structures necessary to achieve cost and quality outcomes. However, nursing case management has worked because of some very key elements: 1. A firm commitment to the belief that staff nurses must be accountable for the outcomes of the *care* that they have planned, given, *managed,* and continuously evaluated. 2. A combination of top-down organizational development strategies with excellent staff nurse involvement at each juncture. 3. Negotiation and collaboration with physicians and hospital administration at key turning points. This includes the relentless articulation of patient-centered *care.* 4. A willingness to learn and risk together as a whole department--across levels, across specialties. This includes a constant balance of moving from concrete examples and problems to reconceptualizing the issues. 5. Listening, responsiveness, humor, and acknowledging contributions of everyone. More than any other

principal, the case manager must be a central caregiver to a patient to ensure cost/quality outcomes. Otherwise case management only adds to the cost of health *care* by adding another level of bureaucracy. Nurses have always *managed* the *care* of patients, but to stay effective and committed, they need to take increased authority in their patients' entire episode of *care* and develop formal collaborative practice groups. In other words: "Prospective payment has changed the health *care* product from a day of *care* (or a visit) to an entire case or episode of illness. More than just a new way of paying for *care,* it has changed our way of planning, managing, and thinking about health *care.*" Looking at the future entails understanding our business, and then changing our practice patterns for the change in the times. Necessity will foster invention; Nursing Case Management provides a model and technology for innovation. Author-abstract.

MJ DIAGNOSIS-RELATED-GROUPS. NURSING-SERVICE-HOSPITAL:
organization-and-administration (og). *PATIENT-CARE-PLANNING:* methods
(mt). *PRIMARY-NURSING-CARE.*
MN BOSTON. HOSPITAL-BED-CAPACITY-300-TO-499. HUMAN. LENGTH-OF-STAY:
economics (ec). MODELS-THEORETICAL. NURSING-PROCESS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing
Journals (N).
YR 1988.
IS 0029-6465. 092.
CP UNITED-STATES (Z1.107.567.875).
IM 8812.
ND ENTRY DATE: 881014.
CLASS UPDATE: 91.

17

AN 88335284. 88000.
AU Torres-M-S.
IN Multipurpose Senior Services Program, Huntington Memorial Hospital,
Pasadena, California 91105.
TI Quality assurance of brokered services.
SO QRB-Qual-Rev-Bull. 1988 Jun. 14(6). P 187-92.
JT QRB. QUALITY REVIEW BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Case management programs that contract for client services act, in
effect, as brokers of these services. Senior *Care* Network (SCN), a
hospital-based, comprehensive, long term *care* program that includes
a case management component, developed a quality assurance (QA)
program to ensure the quality of its brokered services. At SCN,
quality is controlled through a rigorous, systematic vendor selection
process for service vendors and through vendor performance
monitoring. Specific monitoring methods include incident reporting,
quarterly meetings with vendors, client home visits, site visits to
vendor offices, and annual vendor performance evaluations. Extensive
external review requirements may eventually be added to the QA

program to make it even more comprehensive. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st).
 HEALTH-SERVICES-FOR-THE-AGED: standards (st). *LONG-TERM-CARE:*
 standards (st). *MANAGED-CARE-PROGRAMS:* standards (st).
 QUALITY-ASSURANCE-HEALTH-CARE: organization-and-administration (og).
 MN AGED. AGED-80-AND-OVER. CALIFORNIA.
 HOSPITAL-BED-CAPACITY-500-AND-OVER. HUMAN.
 SB Priority Journals (M).
 YR 1988.
 IS 0097-5990. OKP.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8812.
 ND ENTRY DATE: 881021.
 CLASS UPDATE: 91.

18

AN 88331609. 88000.
 AU Kottke-T-E.
 IN Mayo Clinic, Rochester, Minnesota.
 TI Reducing community risk of heart disease.
 SO J-Am-Coll-Cardiol. 1988 Oct. 12(4). P 1113-6.
 JT JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-HEALTH-SERVICES. HEART-DISEASES: prevention-and-control
 (pc).
 MN COMMUNITY-HEALTH-SERVICES: methods (mt). HUMAN.
 MANAGED-CARE-PROGRAMS. NATIONAL-HEALTH-PROGRAMS. RISK-FACTORS.
 SUPPORT-U-S-GOVT-P-H-S.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1988.
 IS 0735-1097. H50.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8812.
 ND ENTRY DATE: 881027.
 CLASS UPDATE: 90.
 NO RR01632. CA38361.

19

AN 88302037. 88000.
 AU Brandt-L.
 TI Comprehensive case managers. Pulling it all together.
 SO Minn-Med. 1988 May. 71(5). P 263.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: therapy (th).
 DELIVERY-OF-HEALTH-CARE: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 MN HUMAN. MINNESOTA. REGIONAL-MEDICAL-PROGRAMS.

YR 1988.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880919.
CLASS UPDATE: 90.

20

AN 88297167. 88000.
AU Wright-J-T Jr.
IN Medical College of Virginia, Richmond.
TI Geriatric hypertension therapy: a guide to cost-effectiveness.
SO Geriatrics. 1988 Aug. 43(8). P 55-62.
JT GERIATRICS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-MULTICASE (RMC).
LG English (EN).
AB The traditional, *stepped-care* approach to the treatment of hypertension has been challenged by the introduction of new and more expensive medications. Because hypertensive patients include those who can least afford high-priced medication, such prescribing patterns may result in noncompliance and, further, may cause patients to switch to physicians or *managed-care* systems more considerate of their economic needs. Physicians should therefore consider cost-effectiveness in treatment of hypertensive patients.
Author-abstract. 24 Refs.
MJ ANTIHYPERTENSIVE-AGENTS: therapeutic-use (tu). HYPERTENSION: drug-therapy (dt).
MN AGED. ANTIHYPERTENSIVE-AGENTS: adverse-effects (ae).
COST-BENEFIT-ANALYSIS. HUMAN. HYPERTENSION: economics (ec).
RN 0 -- Antihypertensive-Agents.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1988.
IS 0016-867X. F01.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880915.
CLASS UPDATE: 91.

21

AN 88287579. 88000.
AU Steiner-J-F. Koepsell-T-D. Fihn-S-D. Inui-T-S.
IN Department of Medicine, University of Colorado Health Sciences Center, Denver 80262.
TI A general method of compliance assessment using centralized pharmacy records. Description and validation.
SO *Med-Care.* 1988 Aug. 26(8). P 814-23.
JT MEDICAL *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The prescription refill records of centralized pharmacies are a

potential source of information about patient compliance with long-term medications. We developed a method for assessing compliance in such settings and validated our measures using pharmacy data and clinical information from patients with seizure disorders and hypertension. For patients taking the anticonvulsant medication phenytoin, compliance with the drug correlated significantly with mean plasma phenytoin level. For patients on antihypertensive medications, compliance with the treatment regimen correlated with control of diastolic blood pressure. Many patients (15% in the phenytoin validation, and 33% in the blood pressure validation) obtained substantial oversupplies of medications; for these patients, the direct relationship between compliance and drug effect was not evident. A majority of seizure patients with "subtherapeutic" mean plasma phenytoin levels were identified as noncompliant using our measures. We conclude that our method of assessing compliance in obtaining medications is feasible in *"managed care"* settings, appears to be a valid correlate of drug effects, and may be useful in research and patient *care.* Author-abstract.

MJ DRUG-THERAPY. PATIENT-COMPLIANCE. PRESCRIPTIONS-DRUG.

MN COMPUTERS. HOSPITAL-BED-CAPACITY-300-TO-499. HOSPITALS-VETERANS. HUMAN. HYPERTENSION: drug-therapy (dt). PHARMACY-SERVICE-HOSPITAL. PHENYTOIN: blood (bl). RECORDS. SEIZURES: drug-therapy (dt). SUPPORT-NON-U-S-GOVT. WASHINGTON.

RN 57-41-0 -- Phenytoin.

SB Priority Journals (M).

YR 1988.

IS 0025-7079. LSM.

CP UNITED-STATES (Z1.107.567.875).

IM 8811.

ND ENTRY DATE: 880907.

CLASS UPDATE: 90.

22

AN 88287577. 88000.

AU Goldstein-J-M. Bassuk-E-L. Holland-S-K. Zimmer-D.

IN Bigel Institute for Health Policy, Heller Graduate School, Brandeis University, Waltham, MA 02254.

TI Identifying catastrophic psychiatric cases. Targeting *managed-care* strategies.

SO *Med-Care.* 1988 Aug. 26(8). P 790-9.

JT MEDICAL *CARE.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Case management programs, a specialized form of utilization review (UR), focus their interventions on catastrophic cases, which comprise the minority of patients while accounting for the majority of costs. Many case management programs base their case identification and review criteria on diagnosis alone, although research has shown that it is a poor predictor of length of stay. Using claims data from a large nationwide insurer, the authors developed an empirical approach

to identifying potentially catastrophic cases. The findings suggest that, in addition to diagnosis, other factors such as age and treatment setting contribute to long stays and high costs and thus should be used to identify catastrophic cases for case management interventions. Strategies to target case management programs must be considered not only in light of their impact on cost but on the quality of *care* for individual patients. Author-abstract.

MJ CATASTROPHIC-ILLNESS: economics (ec). *DELIVERY-OF-HEALTH-CARE:* economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec). MENTAL-DISORDERS: economics (ec).
MN ADOLESCENCE. ADULT. FEMALE. HUMAN. LENGTH-OF-STAY: economics (ec). MALE. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). MIDDLE-AGE. SUPPORT-NON-U-S-GOVT. UNITED-STATES.
SB Priority Journals (M).
YR 1988.
IS 0025-7079. LSM.
CP UNITED-STATES (Z1.107.567.875).
IM 8811.
ND ENTRY DATE: 880907.
CLASS UPDATE: 90.

23

AN 88276460. 88000.
AU Humphreys-D. Mason-R. Guthrie-M. Liem-C. Stern-E-J.
IN Miami Jewish Home and Hospital for the Aged, Florida.
TI The Miami Channeling Program: case management and cost control.
SO QRB-Qual-Rev-Bull. 1988 May. 14(5). P 154-60.
JT QRB. QUALITY REVIEW BULLETIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). *HOME-CARE-SERVICES:* organization-and-administration(og). *LONG-TERM-CARE:* organization-and-administration (og). *MANAGED-CARE-PROGRAMS:* economics (ec). MEDICAID: organization-and-administration (og).
MN AGED. COST-CONTROL: methods (mt). FINANCIAL-MANAGEMENT. FLORIDA. HUMAN. INCOME. PILOT-PROJECTS. SOCIAL-SUPPORT.
SB Priority Journals (M).
YR 1988.
IS 0097-5990. OKP.
CP UNITED-STATES (Z1.107.567.875).
IM 8810.
ND ENTRY DATE: 880819.
CLASS UPDATE: 91.

24

AN 88243104. 88000.
AU Ashley-A.
IN Minnesota Department of Human Services, St. Paul 55155.
TI Case management: the need to define goals.
SO Hosp-Community-Psychiatry. 1988 May. 39(5). P 499-500.

JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE.* GOALS. *MANAGED-CARE-PROGRAMS.*
 SOCIAL-WORK: methods (mt).
 MN DECISION-MAKING. HUMAN. INTERINSTITUTIONAL-RELATIONS.
 UNITED-STATES.
 SB Priority Journals (M).
 YR 1988.
 IS 0022-1597. GCJ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8809.
 ND ENTRY DATE: 880718.
 CLASS UPDATE: 90.

25

AN 88240662. 88000.
 AU Rowland-D. Lyons-B. Edwards-J.
 IN Department of Health Policy and Management, School of Hygiene and
 Public Health, Johns Hopkins University, Baltimore, Maryland 21205.
 TI Medicaid: health *care* for the poor in the Reagan era.
 SO Annu-Rev-Public-Health. 1988. 9. P 427-50.
 JT ANNUAL REVIEW OF PUBLIC HEALTH.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB 40 Refs.
 MJ HEALTH-POLICY: trends (td). MEDICAID: legislation-and-jurisprudence
 (lj).POVERTY.
 MN ELIGIBILITY-DETERMINATION: legislation-and-jurisprudence (lj).
 HEALTH-EXPENDITURES. HUMAN. INSURANCE-HOSPITALIZATION.
 MANAGED-CARE-PROGRAMS. PROSPECTIVE-PAYMENT-SYSTEM.
 STATE-GOVERNMENT. SUPPORT-NON-U-S-GOVT.
 TAX-EQUITY-AND-FISCAL-RESPONSIBILITY-ACT. UNITED-STATES.
 SB Priority Journals (M).
 YR 1988.
 IS 0163-7525. ABA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8809.
 ND ENTRY DATE: 880719.
 CLASS UPDATE: 91.

26

AN 88215152. 88000.
 AU Dietrich-A-J. Nelson-E-C. Kirk-J-W. Zubkoff-M. OConnor-G-T.
 IN Department of Community and Family Medicine, Dartmouth Medical
 School, Hanover, NH 03756.
 TI Do primary physicians actually manage their patients' fee-for-service
 care?

SO JAMA. 1988 Jun 3. 259(21). P 3145-9.
 JT JAMA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB In what proportion of a patient's total health *care* is the primary physician involved? By means of calendar diaries and telephone interviews, 211 primary *care* patients from community practices of the Dartmouth Primary *Care* Cooperative Information Project were followed prospectively for one year. We found that a substantial proportion of *care* was *managed* (that is, either actually provided or coordinated in advance) by the patient's primary physician. Specifically, criteria for a primary physician's role in management were met by 75% of 1379 ambulatory visits to physicians, 33% of 786 visits to nonphysician health *care* providers, 81% of 26 nonemergency hospitalizations, and 78% of 2769 prescriptions. Primary physicians in these settings appear to function as case managers even when they are not participating in formal *managed-care* systems.

Author-abstract.

MJ FAMILY-PRACTICE: methods (mt). PHYSICIANS-ROLE.

PRIMARY-HEALTH-CARE: methods (mt). ROLE.

MN *AMBULATORY-CARE:* utilization (ut). FEES-MEDICAL. FEMALE.

HOSPITALIZATION. HUMAN. MALE. MIDDLE-AGE. *PATIENT-CARE-PLANNING.*

PRESCRIPTIONS-DRUG. PROSPECTIVE-STUDIES. SUPPORT-NON-U-S-GOVT.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0098-7484. KFR.

CP UNITED-STATES (Z1.107.567.875).

IM 8808.

ND ENTRY DATE: 880622.

CLASS UPDATE: 90.

27

AN 88214210. 88000.

AU Cronan-C-J 4th.

TI Physician responsibility to patients under cost containment plans.

SO J-Ky-Med-Assoc. 1988 Apr. 86(4). P 191-6.

JT JOURNAL OF THE KENTUCKY MEDICAL ASSOCIATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). ETHICS-MEDICAL.

MANAGED-CARE-PROGRAMS: economics (ec).

MN COST-CONTROL. HUMAN. PATIENT-ADVOCACY. SOCIAL-RESPONSIBILITY.

UNITED-STATES.

YR 1988.

IS 0023-0294. IV8.

CP UNITED-STATES (Z1.107.567.875).

IM 8808.

ND ENTRY DATE: 880617.

CLASS UPDATE: 90.

28

AN 88212891. 88000.
 AU St-Amand-L.
 TI *Managed* *care:* fitting pieces into the puzzle.
 SO Home-Healthc-Nurse. 1988 Mar-Apr. 6(2). P 14-7.
 JT HOME HEALTHCARE NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
 HOME-CARE-SERVICES: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 MN COST-CONTROL. HUMAN. REIMBURSEMENT-MECHANISMS. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1988.
 IS 0884-741X. G3C.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8808.
 ND ENTRY DATE: 880623.
 CLASS UPDATE: 90.

29

AN 88212890. 88000.
 AU McNiff-M-L.
 TI Impact of *managed* *care* systems on home health agencies.
 SO Home-Healthc-Nurse. 1988 Mar-Apr. 6(2). P 10-3.
 JT HOME HEALTHCARE NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og).
 HOME-CARE-SERVICES: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 MN HEALTH-MAINTENANCE-ORGANIZATIONS. HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1988.
 IS 0884-741X. G3C.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8808.
 ND ENTRY DATE: 880623.
 CLASS UPDATE: 90.

30

AN 88199487. 88000.
 AU Wolfson-J. Levin-P-J. Campbell-R-R.
 TI Beyond the cost of health *care:* the new era of quality and liability
 in *managed* *care.*
 SO J-Fla-Med-Assoc. 1988 Mar. 75(3). P 165-9.
 JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *MANAGED-CARE-PROGRAMS:* standards (st). *QUALITY-ASSURANCE-HEALTH-CARE.*
 MN COST-CONTROL. FLORIDA. HUMAN. INSURANCE-HEALTH.
 MANAGED-CARE-PROGRAMS: economics (ec),
 organization-and-administration (og).
 YR 1988.
 IS 0015-4148. I53.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8808.
 ND ENTRY DATE: 880603.
 CLASS UPDATE: 90.

31

AN 88176090. 88000.
 AU Shanmugasundaram-T-K.
 IN Dept. of Orthopaedic Surgery, Madras Medical College, India.
 TI The *care* of SCI patients in the developing nations--can we stem the rot?
 SO Paraplegia. 1988 Feb. 26(1). P 10-1.
 JT PARAPLEGIA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The aims, objectives and results of the Madras Paraplegia Project at the Government General Hospital, Madras is presented. Eight hundred and forty four Spinal Cord Injury (SCI) patients have been treated in 8 years and 4 months. The Madras Model offers an alternative strategy for the total *care* of SCI patients. The merits and drawbacks are highlighted. The results to date commend replication of the model in areas of the world where the services for SCI *Care* are meagre or non-existent. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE.* DEVELOPING-COUNTRIES.
 MANAGED-CARE-PROGRAMS. SPINAL-CORD-INJURIES: therapy (th).
 MN *DELIVERY-OF-HEALTH-CARE:* economics (ec), history (hi). HUMAN.
 INDIA. *MANAGED-CARE-PROGRAMS:* economics (ec), history (hi).
 SB Priority Journals (M).
 YR 1988.
 IS 0031-1758. OQT.
 CP SCOTLAND (Z1.542.363.766).
 IM 8807.
 ND ENTRY DATE: 880427.
 CLASS UPDATE: 90.

32

AN 88121958. 88000.
 AU Anderson-O-W.
 TI The fragmentation of the medical profession.
 SO Minn-Med. 1988 Jan. 71(1). P 20-1.
 JT MINNESOTA MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE:* economics (ec). FEES-MEDICAL.
MANAGED-CARE-PROGRAMS: economics (ec). PHYSICIANS-PRACTICE-PATTERNS:
standards (st).
MN HEALTH-MAINTENANCE-ORGANIZATIONS: economics (ec). HUMAN.
INDEPENDENT-PRACTICE-ASSOCIATIONS: economics (ec). MINNESOTA.
YR 1988.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 8805.
ND ENTRY DATE: 880324.
CLASS UPDATE: 91.
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TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1
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1
AN 93270439. 93084.
AU Ringel-S-P.
TI Can neurologists survive or thrive with health *care* reform?
`editorial:.
SO Ann-Neurol. 1993 May. 33(5). P 441-4.
JT ANNALS OF NEUROLOGY.
PT EDITORIAL (EDI).
LG English (EN).
AB The economics of present-day health *care* and the politics of recent
elections will forever change the practice of neurology. *Managed*
care, outcomes research, limits on price and volume of services,
diagnostic and treatment restraint, divestiture of ownership in
health facilities, malpractice reform, increased use of preventive
services, and administrative simplifications will all be part of the
new practice of medicine, and hence neurology. The challenge for
neurologists will be to define cost-effective neurological services,
put greater emphasis on the most prevalent and costly diseases of the
nervous system, and convince primary *care* providers and patients of
their value. Health *care* reform is an opportunity and challenge for
neurologists to improve patient access while achieving acceptable
financing mechanisms. Author-abstract.
MJ HEALTH-POLICY. NEUROLOGY.
MN *DELIVERY-OF-HEALTH-CARE.* FEMALE. HUMAN. MALE. POLITICS.

SOCIETIES-SCIENTIFIC. UNITED-STATES.
SB Priority Journals (M).
YR 1993.
IS 0364-5134. 6AE.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930621.

2

AN 93263393. 93083.
AU Nelson-P.
TI ANA to help develop *managed* *care* curriculum.
SO Am-Nurse. 1993 May. 25(5). P 25.
JT AMERICAN NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ EDUCATION-NURSING. *MANAGED-CARE-PROGRAMS.*
MN AMERICAN-NURSES-ASSOCIATION. CURRICULUM. *DELIVERY-OF-HEALTH-CARE.*
HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930617.

3

AN 93263392. 93083.
AU Heinrich-J. Zeck-L.
TI Workshop explores nursing's role in *managed* *care,* *managed*
competition.
SO Am-Nurse. 1993 May. 25(5). P 24-5.
JT AMERICAN NURSE.
PT MEETING-REPORT (MET).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS.* *NURSING-CARE.*
MN AMERICAN-NURSES-ASSOCIATION. HUMAN. SOCIETIES-NURSING.
UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930617.

4

AN 93263391. 93083.
AU Gerardi-D.

TI The role of critical *care* in *managed* competition.
 SO Am-Nurse. 1993 May. 25(5). P 24.
 JT AMERICAN NURSE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *CRITICAL-CARE.* *MANAGED-CARE-PROGRAMS.*
 MN *CRITICAL-CARE:* trends (td). *DELIVERY-OF-HEALTH-CARE:* trends (td).
 HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 0098-1486. 40D.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930617.

5

AN 93261721. 93083.
 AU Schoen-D-C.
 TI A look at nursing's agenda for health *care* reform.
 SO Orthop-Nurs. 1993 Mar-Apr. 12(2). P 37-40.
 JT ORTHOPAEDIC NURSING.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Nursing organizations have united behind a program for restructuring health *care.* Nursing's Agenda for Health *Care* Reform proposes 1) universal health *care* insurance coverage for a wide range of health *care* services; 2) greater freedom of consumer choice and access to a variety of providers (including nurses); and 3) incentives to reduce costs, including *managed* *care* and a shift in emphasis toward preventive health *care* services. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). SOCIETIES-NURSING.
 MN COST-CONTROL. *DELIVERY-OF-HEALTH-CARE:* economics (ec).
 HEALTH-SERVICES-ACCESSIBILITY. HUMAN.
 NATIONAL-HEALTH-INSURANCE-UNITED-STATES. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 0744-6020. ORN.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930617.

6

AN 93261699. 93083.
 AU McGarvey-R-N. Harper-J-J.
 IN Forbes Health System, Monroeville, Pennsylvania 15146.
 TI Pneumonia mortality reduction and quality improvement in a community hospital.
 SO QRB-Qual-Rev-Bull. 1993 Apr. 19(4). P 124-30.

JT QRB. QUALITY REVIEW BULLETIN.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Rather than explain adverse results on the basis of flawed data, a physician-directed quality improvement program was initiated to improve the delivery of *care* to patients admitted to Forbes Health System (Monroeville, Penn) with community-acquired pneumonia. Following the introduction of standardized physician orders and modification and elimination of inefficient processes of *care,* the mortality rate for this infection decreased from 10.2% to 6.8%. This initial exposure to the quality improvement process led to the participation of the medical staff in other related clinical and support service initiatives. In addition, Forbes and its clinical partners are now better positioned to respond to increasing government, *managed* *care,* and consumer inquiries relating to cost and quality outcomes. Finally, this positive experience facilitated the organization's transition from inspection-based quality assessment to quality improvement activities, which should assist in efforts to meet or exceed new accreditation standards. Author-abstract.

MJ HOSPITAL-MORTALITY. HOSPITALS-COMMUNITY. PNEUMONIA: mortality (mo). *QUALITY-ASSURANCE-HEALTH-CARE.*

MN AGED. AGED-80-AND-OVER. HUMAN. PNEUMONIA: diagnosis (di), therapy (th). RISK-FACTORS.

SB Priority Journals (M). Nursing Journals (N).

YR 1993.

IS 0097-5990. OKP.

CP UNITED-STATES (Z1.107.567.875).

IM 9308.

ND ENTRY DATE: 930617.

7

AN 93258213. 93083.

AU Simic-A.

TI Aging and ethnic identity: a refutation of the double-jeopardy theory.

SO J-Case-Manag. 1993 Spring. 2(1). P 9-13.

JT JOURNAL OF CASE MANAGEMENT.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Ethnic identity has been commonly stereotyped in the gerontological literature as a disability for the elderly, placing them in so-called double jeopardy. However, new knowledge and changing attitudes in American society have resulted in a far more positive attitude toward the role of cultural pluralism. Ethnographic field research strongly suggests that ethnic affiliation can proffer the elderly a spectrum of psychological, social, and cultural resources not generally available to them in the larger society. For case managers with largely ethnic client populations, understanding the dynamics of ethnicity can enhance their ability to meet client needs successfully with resources from both within and outside the client's culture.

Author-abstract.

MJ AGED: psychology (px). ETHNIC-GROUPS.
HEALTH-SERVICES-NEEDS-AND-DEMAND: standards (st).
MANAGED-CARE-PROGRAMS: standards (st). SELF-CONCEPT.
MN CONSUMER-PARTICIPATION. FAMILY: ethnology (eh). HUMAN.
SOCIAL-SUPPORT.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930617.

8

AN 93258212. 93083.
AU Savarese-M. Weber-C-M.
TI Case management for persons who are homeless.
SO J-Case-Manag. 1993 Spring. 2(1). P 3-8.
JT JOURNAL OF CASE MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Comprehensive, client-centered continuous *care* with a multidisciplinary team using the case management model has proven to be essential in providing health *care* services to the homeless. Despite their heterogeneity, homeless persons share the common experiences of being poor, isolated, and in crisis. The process of case management is inherently therapeutic for its recipients and providers. It has the potential to be a source of human support for those who have none. Case management models can be effective systems for providing health *care* to these persons while addressing their special needs and characteristics. Author-abstract.
MJ HOMELESS-PERSONS. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). *PATIENT-CARE-TEAM:* organization-and-administration (og).
MN ADULT. AGED. CASE-REPORT. FEMALE.
HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN. MALE. MIDDLE-AGE. MODELS-ORGANIZATIONAL. *PATIENT-CARE-PLANNING.* SOCIAL-SUPPORT.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930617.

9

AN 93258211. 93083.
AU Schraeder-C. Shelton-P. Dworak-D. Fraser-C.
TI Alzheimer's disease: case management in a rural setting.

SO J-Case-Manag. 1993 Spring. 2(1). P 26-31.
 JT JOURNAL OF CASE MANAGEMENT.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This article describes a case management model developed under the guidelines of the Medicare Alzheimer's Disease Demonstration. This delivery model currently provides services to over 400 Alzheimer's disease victims and their family caregivers who reside in predominantly rural communities in east central Illinois and western Indiana. Client and caregiver characteristics are provided as well as service utilization patterns. The model incorporates intervention strategies that facilitate communication and coordination of services, integrates formal and informal support systems, and allows for client advocacy and system development. Author-abstract.
 MJ ALZHEIMERS-DISEASE: rehabilitation (rh). *MANAGED-CARE-PROGRAMS: organization-and-administration(og). REGIONAL-MEDICAL-PROGRAMS: organization-and-administration (og). RURAL-HEALTH.
 MN AGED. AGED-80-AND-OVER. ALZHEIMERS-DISEASE: epidemiology (ep). CASE-REPORT. FEMALE. HUMAN. ILLINOIS: epidemiology (ep). INDIANA: epidemiology (ep). MALE. MEDICARE. MIDDLE-AGE. MODELS-ORGANIZATIONAL. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 1061-3706. BN1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930617.

10

AN 93258210. 93083.
 AU Schensul-J-J.
 TI Approaches to case management in Puerto Rican communities.
 SO J-Case-Manag. 1993 Spring. 2(1). P 19-25.
 JT JOURNAL OF CASE MANAGEMENT.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This article reviews some critical elements of case management as they apply to Puerto Ricans seeking quality and consistency in health *care* and social services in a system which is culturally foreign, difficult to negotiate, and frequently unresponsive, especially to those with limited economic resources and government rather than private insurance. Following a brief outline of some principles of case management, we discuss aspects of Puerto Rican history, family organization, and health-seeking behavior that relate to case management. Descriptions of three programs illustrate several case management approaches that combine methods to access *care* with those needed to organize coordinated inter-institutional *care.* Finally, we suggest ways for case managers to successfully work with Puerto Rican families. Author-abstract.

MJ CULTURAL-CHARACTERISTICS. HEALTH-SERVICES-ACCESSIBILITY: standards (st). HISPANIC-AMERICANS. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
 MN CONNECTICUT. EMIGRATION-AND-IMMIGRATION. HUMAN. PUERTO-RICO: ethnology (eh).
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 1061-3706. BN1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930617.

11

AN 93258209. 93083.
 AU Wehmeyer-M-L.
 TI Sounding a certain trumpet: case management as a catalyst for the empowerment of people with developmental disabilities.
 SO J-Case-Manag. 1993 Spring. 2(1). P 14-8.
 JT JOURNAL OF CASE MANAGEMENT.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The Developmental Disabilities Assistance Act of 1987 (P.L. 100-146) conceptualized case management as a process by which to "increase and support the independence, productivity and integration into the community of people with disabilities." There is a call from people experiencing disabilities to meet this mandate by a process of empowerment, enabling them to assume control of and responsibility for issues impacting their daily life. This article examines current outcomes and expectancies pertaining to integration, independence and productivity and suggests an orientation within which individual empowerment and self-determination, and consequently independence, and integration, are central outcomes. Author-abstract.
 MJ DISABLED: rehabilitation (rh). *MANAGED-CARE-PROGRAMS:* organization-and-administration(og). POWER-PSYCHOLOGY. *SELF-CARE.*
 MN ACTIVITIES-OF-DAILY-LIVING. HUMAN. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj). ORGANIZATIONAL-OBJECTIVES. SUPPORT-U-S-GOVT-NON-P-H-S.
 SB Nursing Journals (N).
 LI N.
 YR 1993.
 IS 1061-3706. BN1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930617.

12

AN 93256012. 93082.
 AU Cleveland-W-W.
 IN Department of Pediatrics, School of Medicine, University of Miami,

FL.

TI Redoing the health *care* quilt. A progress report.
SO Am-J-Dis-Child. 1993 May. 147(5). P 512-3.
JT AMERICAN JOURNAL OF DISEASES OF CHILDREN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). HEALTH-POLICY.
INSURANCE-HEALTH.
MN ADOLESCENCE. ALGORITHMS. CHILD. CHILD-PRESCHOOL. FEMALE. HUMAN.
MALE. *MANAGED-CARE-PROGRAMS.* POLITICS. PREGNANCY. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0002-922X. 3GS.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930608.

13

AN 93255047. 93082.
AU Schryer-N-M.
TI Nursing case management for children undergoing craniofacial
reconstruction.
SO Plast-Surg-Nurs. 1993 Spring. 13(1). P 17-26.
JT PLASTIC SURGICAL NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB With consumers and providers alike expressing dissatisfaction with
today's health *care* delivery system, case management has helped to
achieve an effective balance among expected outcomes, the process of
care delivery, and cost. This article describes nursing case
management for children undergoing craniofacial reconstruction and
how case management plans can be implemented. Author-abstract.
MJ FACE: abnormalities (ab). *MANAGED-CARE-PROGRAMS:*
organization-and-administration(og). *PATIENT-CARE-PLANNING.*
PRIMARY-NURSING-CARE: organization-and-administration (og). SKULL:
abnormalities (ab). SURGERY-PLASTIC: nursing (nu).
MN FACE: surgery (su). HUMAN. INFANT. NURSING-AUDIT.
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. SKULL: surgery (su).
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0741-5206. P8M.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930610.

14

AN 93254835. 93082.
AU OConnor-A-C.

TI Quality measurement, management, and reimbursement in today's health
 care environment.
 SO QRB-Qual-Rev-Bull. 1993 Mar. 19(3). P 102-3.
 JT QRB. QUALITY REVIEW BULLETIN.
 PT MEETING-REPORT (MET).
 LG English (EN).
 MJ INSURANCE-HEALTH-REIMBURSEMENT. *QUALITY-ASSURANCE-HEALTH-CARE.*
 MN HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec), standards (st).
 TECHNOLOGY-ASSESSMENT-BIOMEDICAL. UNITED-STATES.
 SB Priority Journals (M). Nursing Journals (N).
 YR 1993.
 IS 0097-5990. OKP.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930607.

15

AN 93253918. 93082.
 AU Sixma-H-J. Langerak-E-H. Schrijvers-G-J. van-der-Bent-J.
 TI Attempting to reduce hospital costs by strengthening primary *care*
 institutions. The Dutch Health *Care* Demonstration Project in the new
 town of Almere.
 SO JAMA. 1993 May 19. 269(19). P 2567-72.
 JT JAMA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-HEALTH-CENTERS: organization-and-administration (og).
 HOSPITALIZATION: statistics-and-numerical-data (sn).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 PRIMARY-HEALTH-CARE: organization-and-administration (og).
 MN CATCHMENT-AREA-HEALTH. HEALTH-PLANNING-ORGANIZATIONS.
 HOSPITALIZATION: economics (ec). HUMAN. MORBIDITY. NETHERLANDS:
 epidemiology (ep). PILOT-PROJECTS. PROGRAM-EVALUATION.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1993.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930604.

16

AN 93249563. 93082.
 AU Epps-S. Kroeker-R.
 IN Department of Pediatrics, University of Nebraska Medical Center,
 Omaha.
 TI Family practice physicians' awareness of early intervention
 legislation.
 SO Acad-Med. 1993 May. 68(5). P 388-9.
 JT ACADEMIC MEDICINE.

PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ EDUCATION-SPECIAL. HEALTH-POLICY. KNOWLEDGE-ATTITUDES-PRACTICE.
 PHYSICIANS-FAMILY.
 MN CHILD-DEVELOPMENT-DISORDERS: diagnosis (di). CHILD-PRESCHOOL.
 HUMAN. INFANT. INFANT-NEWBORN. *MANAGED-CARE-PROGRAMS.*
 REFERRAL-AND-CONSULTATION.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1993.
 IS 1040-2446. ACM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9308.
 ND ENTRY DATE: 930604.

17

AN 93244611. 93081.
 TI National health policy: back to the future. Ad Hoc Committee on
 National Health Policy American Speech-Language-Hearing Association.
 SO ASHA-Suppl. 1993 Mar. 35(3 Suppl 10). P 2-10.
 JT ASHA. SUPPLEMENT.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB After an extensive review of the literature and discussion of both
 national and state proposed health plans, the committee arrived at
 the following conclusions: 1. The issues that prompted development
 of the 1971 American Speech-Language-Hearing Association's (ASHA)
 Position Statement on National Health *Care* have not been resolved or
 altered. 2. Few significant national health plans or policies are
 being supported by the Bush Administration other than *managed-care*
 plans. 3. A national health policy will be driven by the
 development of state health policies and plans. 4. Implementation
 of national or state health plans will affect both professions at all
 service provision sites, including public schools. 5. Five general
 models apply to all existing or proposed national and state health
 policies or plans: single payer (e.g., a Canadian-style plan) minimum
 basic benefits ("play or pay") expanded Medicare or Medicaid benefits
 rationed healthcare (e.g., Oregon plan) *managed* *care* (e.g., health
 maintenance organizations) 6. There will be continued efforts to
 eliminate Medicaid mandates. 7. ASHA needs to advocate for the
 inclusion of rehabilitative services as basic rather than optional
 services in all health plans. 8. ASHA must advocate for adequate
 access to quality *care* regardless of healthcare or education provider
 setting. Author-abstract.
 MJ HEALTH-POLICY: legislation-and-jurisprudence (lj).
 SPEECH-LANGUAGE-PATHOLOGY: standards (st).
 MN AMERICAN-SPEECH-LANGUAGE-HEARING-ASSOCIATION. FEMALE.
 HEALTH-POLICY: trends (td). HUMAN. INSURANCE: economics (ec).
 MALE. MEDICAID. MEDICARE. PUBLIC-HEALTH: standards (st).
 QUALITY-OF-HEALTH-CARE. SPEECH-LANGUAGE-PATHOLOGY: trends (td).
 UNITED-STATES.

YR 1993.
IS BLM.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930602.

18

AN 93244408. 93081.
AU Grier-J. Sowell-R-L.
IN Division of Research and Client Services, AID Atlanta, Inc., GA.
TI Standards and evaluation in community-based case management.
SO *J-Assoc-Nurses-AIDS-Care.* 1993 Jan-Mar. 4(1). P 32-3.
JT JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-HEALTH-SERVICES: standards (st). GUIDELINES: standards (st). HIV-INFECTIONS: therapy (th). *MANAGED-CARE-PROGRAMS:* standards (st). *QUALITY-ASSURANCE-HEALTH-CARE:* organization-and-administration (og).
MN HUMAN. *OUTCOME-ASSESSMENT-HEALTH-CARE:* organization-and-administration (og).
SB Priority Journals (M). Nursing Journals (N).
YR 1993.
IS 1055-3290. A7P.
CP UNITED-STATES (Z1.107.567.875).
IM 9308.
ND ENTRY DATE: 930528.

19

AN 93241523. 93075.
AU Zieno-S-A.
IN Department of Surgery, Ehrling Bergquist Hospital, Offutt AFB, NE 68113.
TI CHAMPUS recapture in the treatment of ear infections.
SO Mil-Med. 1993 Apr. 158(4). P 273-4.
JT MILITARY MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Ear infections, commonly referred to as otitis media, are one of the most commonly occurring problems of childhood. The "hit and miss" treatment of this disorder can result in parental frustration and early referral for surgical treatment. The application of *managed* *care* principles require that a standard approach to *care* be employed for the treatment of this condition. It should be high-quality, low-cost, and accessible to the patient population. The use of group appointments for common medical problems was first recommended by the military-commissioned PRISM III report of the early 1980s. It was felt that this technique could increase access and improve quality of *care.* A modification of this concept was tested that allowed the advantages of group parent teaching and medical history intake while

preserving the individualized approach to *care* for a larger number of patients. This method was found to increase the productivity of the clinic by over 100%, while reducing the referral of patients outside the AF clinic to less than 1%. Author-abstract.

MJ HEALTH-BENEFIT-PLANS-EMPLOYEE. MILITARY-PERSONNEL. OTITIS-MEDIA: economics (ec), therapy (th).
MN CHILD. CHILD-PRESCHOOL. HEALTH-BENEFIT-PLANS-EMPLOYEE: economics (ec). HOSPITALS-MILITARY. HUMAN. *MANAGED-CARE-PROGRAMS.* NEBRASKA. PARENTS: education (ed). QUESTIONNAIRES.
YR 1993.
IS 0026-4075. N1A.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930525.

20

AN 93241378. 93075.
AU Hull-A-R.
TI FOB, FOH, but in 1993, who is a FOM? (Friend of Bill, friend of Hillary, friend of medicine).
SO Nephrol-News-Issues. 1993 Apr. 7(4). P 15-6, 18.
JT NEPHROLOGY NEWS AND ISSUES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HEALTH-CARE-COSTS.* *MANAGED-CARE-PROGRAMS:* standards (st). POLITICS.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0896-1263. NUB.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930527.

21

AN 93241370. 93075.
AU Rubin-R-J.
TI Plenty of questions still remain on Clinton's approach to health *care* reform.
SO Nephrol-News-Issues. 1993 Feb. 7(2). P 16-7.
JT NEPHROLOGY NEWS AND ISSUES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: standards (st). POLITICS.
MN HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1993.

IS 0896-1263. NUB.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930527.

22

AN 93241369. 93075.
AU Neumann-M-E.
TI Clinton hopes *managed* competition will slow runaway health *care*
train.
SO Nephrol-News-Issues. 1993 Feb. 7(2). P 15, 31.
JT NEPHROLOGY NEWS AND ISSUES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: standards (st). POLITICS.
MN COST-CONTROL. HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0896-1263. NUB.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930527.

23

AN 93241354. 93075.
AU Bednar-B.
TI Nursing's role crucial in the future of *managed* *care.*
SO Nephrol-News-Issues. 1992 Nov. 6(11). P 23.
JT NEPHROLOGY NEWS AND ISSUES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NURSES.
ROLE.
MN FORECASTING. HUMAN.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0896-1263. NUB.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930527.

24

AN 93241352. 93075.
AU Van-Valkenburgh-D.
TI Finding the real meaning of *"managed* *care"* for the ESRD community.
SO Nephrol-News-Issues. 1992 Nov. 6(11). P 18, 20, 57-8.
JT NEPHROLOGY NEWS AND ISSUES.

PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ KIDNEY-FAILURE-CHRONIC: therapy (th). *MANAGED-CARE-PROGRAMS:*
standards (st).
MN HUMAN. *OUTCOME-ASSESSMENT-HEALTH-CARE.* REIMBURSEMENT-MECHANISMS.
SB Nursing Journals (N).
LI N.
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CP UNITED-STATES (Z1.107.567.875).
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25

AN 93240680. 93075.
AU Bernstein-S-J. McGlynn-E-A. Siu-A-L. Roth-C-P. Sherwood-M-J.
Keeseey-J-W. Kosecoff-J. Hicks-N-R. Brook-R-H.
IN School of Medicine, University of Michigan, Ann Arbor.
TI The appropriateness of hysterectomy. A comparison of *care* in seven
health plans. Health Maintenance Organization Quality of *Care*
Consortium.
SO JAMA. 1993 May 12. 269(18). P 2398-402.
JT JAMA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB OBJECTIVE--To develop and test a method for comparing the
appropriateness of hysterectomy use in different health plans.
DESIGN--Retrospective cohort study. SETTING--Seven *managed* *care*
organizations. PATIENTS--Random sample of all nonemergency,
non-oncological hysterectomies performed in the seven *managed* *care*
organizations over a 1-year period. Patients who were not
continuously enrolled in a plan for 2 years prior to their
hysterectomy were excluded. MAIN OUTCOME MEASURES--Proportion of
women undergoing hysterectomy in each plan for inappropriate clinical
reasons according to ratings derived from a panel of *managed* *care*
physicians. RESULTS--Overall, about 16% of women underwent
hysterectomy for reasons judged to be clinically inappropriate. Only
one plan had significantly more hysterectomies rated inappropriate
compared with the group mean (27%, unadjusted). Adjusting for age
and race did not affect the rankings of the plans and had little
effect on the numeric results. CONCLUSION--The rates of
inappropriate use of hysterectomies are similar to those for other
procedures and vary to a small degree among health plans. This
information may be useful to purchasers when they consider which
health plans to offer their employees. Author-abstract.
MJ HEALTH-MAINTENANCE-ORGANIZATIONS: standards (st).
HEALTH-SERVICES-MISUSE: statistics-and-numerical-data (sn).
HYSTERECTOMY: utilization (ut). UTILIZATION-REVIEW:
statistics-and-numerical-data (sn).
MN ADULT. AGED. COMPARATIVE-STUDY. FEMALE.

HEALTH-MAINTENANCE-ORGANIZATIONS: statistics-and-numerical-data (sn).
HEALTH-SERVICES-RESEARCH: organization-and-administration (og).
HUMAN. HYSTERECTOMY: statistics-and-numerical-data (sn).
MIDDLE-AGE. *QUALITY-ASSURANCE-HEALTH-CARE.* RETROSPECTIVE-STUDIES.
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930525.

26

AN 93240570. 93075.
AU Weil-T-P.
IN Bedford Health Associates Inc., Management Consultants for Health and
Hospital Services, Asheville, NC 28801.
TI President Clinton's *managed* competition proposal.
SO J-Natl-Med-Assoc. 1993 Apr. 85(4). P 257-63.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In the search for fairness of access to health *care,* value for the
money spent, and high quality of patient *care,* the United States has
vacillated between advocacy of government regulations (the 1970s) and
of market-driven, pro-competitive (1980s) approaches. The possible
enactment of President Clinton's health reform plan with a
managed-care strategy (1990s) calls for paying physicians and other
providers in a manner that often induces them to minimize the
provision of services to patients per episode of illness. This
article discusses the impact of such legislation on patients,
physicians, and other providers. It then argues that the President's
managed competition approach, which micromanages *health-care*
services, will fail except by concurrently implementing his proposed
National Health Board's global budgetary concept. The major reason
is that health reform for the 36.6 million uninsured Americans, who
are mostly the working poor and their dependents, is only practical
and affordable if stringent policies are adopted that reorganize
available *health-care* resources and simultaneously implement
cost-containment constraints. Author-abstract.
MJ COMPETITIVE-MEDICAL-PLANS. HEALTH-POLICY. *MANAGED-CARE-PROGRAMS.*
MN COMPETITIVE-MEDICAL-PLANS: economics (ec),
organization-and-administration (og). COST-CONTROL.
HEALTH-EXPENDITURES. HEALTH-POLICY: economics (ec).
HEALTH-SERVICES-NEEDS-AND-DEMAND. HUMAN. *MANAGED-CARE-PROGRAMS:*
economics (ec), organization-and-administration (og).
MEDICALLY-UNINSURED. REIMBURSEMENT-MECHANISMS. UNITED-STATES.
YR 1993.
IS 0027-9684. J9Z.

CP UNITED-STATES (Z1.107.567.875).
IM 9307.
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27

AN 93239081. 93075.
AU Bergthold-L-A.
IN William M. Mercer, Inc., San Francisco, CA.
TI Benefit design choices under *managed* competition.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 99-109.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). INSURANCE-BENEFITS.
MANAGED-CARE-PROGRAMS: economics (ec).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES.
MN DEDUCTIBLES-AND-COINSURANCE. HEALTH-POLICY. HUMAN.
UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 930521.

28

AN 93239080. 93075.
AU Kronick-R.
IN Department of Community and Family Medicine, University of
California, San Diego, La Jolla.
TI Where should the buck stop: federal and state responsibilities in
health *care* financing reform.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 87-98.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONSUMER-ADVOCACY: legislation-and-jurisprudence (lj).
FINANCING-GOVERNMENT. HEALTH-POLICY.
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
MN COMPETITIVE-MEDICAL-PLANS: economics (ec). GOVERNMENT. HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES:
legislation-and-jurisprudence (lj). RATE-SETTING-AND-REVIEW.
UNITED-STATES.
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CP UNITED-STATES (Z1.107.567.875).
IM 9307.
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29

AN 93239079. 93075.
 AU Sofaer-S.
 IN Health *Care* Services, George Washington University Medical Center,
 Washington, DC.
 TI Informing and protecting consumers under *managed* competition.
 SO Health-Aff (Millwood). 1993. 12 Suppl. P 76-86.
 JT HEALTH AFFAIRS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMPETITIVE-MEDICAL-PLANS: standards (st). CONSUMER-ADVOCACY.
 MANAGED-CARE-PROGRAMS: standards (st).
 NATIONAL-HEALTH-INSURANCE-UNITED-STATES.
 MN CHOICE-BEHAVIOR. CONSUMER-PARTICIPATION. CONSUMER-SATISFACTION.
 HUMAN. NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec),
 standards (st). UNITED-STATES.
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 IS 0278-2715. GAG.
 CP UNITED-STATES (Z1.107.567.875).
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AN 93239078. 93075.
 AU Starr-P. Zelman-W-A.
 TI A bridge to compromise: competition under a budget.
 SO Health-Aff (Millwood). 1993. 12 Suppl. P 7-23.
 JT HEALTH AFFAIRS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A new approach to universal health insurance combining *managed*
 competition and global budgets promises to break the impasse blocking
 comprehensive health reform. The central innovation is the
 development of regional health insurance purchasing cooperatives
 (HIPCs) as managers and reorganizers of the market and platforms for
 global budgets. Financing would be based on community-rated
 premiums, with obligations to employers capped as a percentage of
 payroll and to individuals as a percentage of family income. Budgets
 would cap the mandated core of spending and set a target for
 out-of-pocket expenditures. Author-abstract.
 MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). CONSUMER-PARTICIPATION:
 economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec).
 NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
 MN CONSUMER-PARTICIPATION: trends (td). HEALTH-POLICY. HUMAN.
 NATIONAL-HEALTH-INSURANCE-UNITED-STATES:
 legislation-and-jurisprudence (lj). RATE-SETTING-AND-REVIEW.
 UNITED-STATES.
 YR 1993.
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 CP UNITED-STATES (Z1.107.567.875).
 IM 9307.

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AN 93239076. 93075.
AU Starr-P.
IN Princeton University.
TI Design of health insurance purchasing cooperatives.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 58-64.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-MEDICAL-PLANS: organization-and-administration (og).
CONSUMER-PARTICIPATION: economics (ec). *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
RATE-SETTING-AND-REVIEW.
MN CONSUMER-ADVOCACY. EFFICIENCY. HUMAN. INSURANCE-POOLS.
INSURANCE-SELECTION-BIAS. *MANAGED-CARE-PROGRAMS:* economics (ec).
UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
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AN 93239075. 93075.
AU Zelman-W-A.
IN California Department of Insurance.
TI Who should govern the purchasing cooperative?
SO Health-Aff (Millwood). 1993. 12 Suppl. P 49-57.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-MEDICAL-PLANS: organization-and-administration (og).
CONSUMER-PARTICIPATION: economics (ec). *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
RATE-SETTING-AND-REVIEW.
MN CONSUMER-ADVOCACY. CONSUMER-PARTICIPATION: trends (td). GOVERNMENT.
HEALTH-POLICY. HUMAN. INSURANCE-POOLS.
NATIONAL-HEALTH-INSURANCE-UNITED-STATES:
legislation-and-jurisprudence (lj). SOCIAL-RESPONSIBILITY.
UNITED-STATES.
YR 1993.
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ND ENTRY DATE: 930521.

AN 93239071. 93075.
 AU Baker-L-C. Cantor-J-C.
 IN Department of Economics, Princeton University.
 TI Physician satisfaction under *managed* *care*.
 SO Health-Aff (Millwood). 1993. 12 Suppl. P 258-70.
 JT HEALTH AFFAIRS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Data from a survey of young physicians have been analyzed to study the relationship between practicing medicine under *managed* *care* and the levels of perceived professional autonomy, practice satisfaction, and career satisfaction. Although practicing under *managed* *care* is associated with lower levels of perceived autonomy in patient selection and time allocation, it is associated with higher levels of perceived autonomy in use of hospital *care,* tests, and procedures. Specialists associated with *managed* *care* perceive more autonomy than generalists. Analyses of physicians' satisfaction with their practices and careers show that practicing under *managed* *care* is not uniformly associated with lower levels of satisfaction. Overall, *managed* *care* does not seem to have had the deleterious impact on medical practice that was forecast for it. Author-abstract.
 MJ JOB-SATISFACTION. *MANAGED-CARE-PROGRAMS:* manpower (ma). PHYSICIANS: psychology (px).
 MN ATTITUDE-OF-HEALTH-PERSONNEL. CAREER-CHOICE. FEMALE. HUMAN. MALE. PHYSICIANS: statistics-and-numerical-data (sn). PROFESSIONAL-AUTONOMY. UNITED-STATES.
 YR 1993.
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 CP UNITED-STATES (Z1.107.567.875).
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AN 93239070. 93075.
 AU Staines-V-S.
 TI Potential impact of *managed* *care* on national health spending.
 SO Health-Aff (Millwood). 1993. 12 Suppl. P 248-57.
 JT HEALTH AFFAIRS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Illustrative estimates suggest that if all acute health *care* services were delivered through staff- or group-model health maintenance organizations (HMOs), national health spending might be almost 10 percent lower. If the delivery of all such services (except those now provided by staff- or group-model HMOs) were subject to utilization review arrangements incorporating precertification and concurrent review of inpatient *care,* spending might be 1 percent lower. The estimates assume no changes in the health *care* system apart from expansion of these two forms of *managed* *care* to cover all

insured persons. They also assume that moving to universal *managed*
care would produce a one-time drop in the level of national health
spending with no subsequent effect on spending growth.

Author-abstract.

MJ HEALTH-EXPENDITURES: statistics-and-numerical-data (sn).

MANAGED-CARE-PROGRAMS: economics (ec).

MN HUMAN. UNITED-STATES.

YR 1993.

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CP UNITED-STATES (Z1.107.567.875).

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35

AN 93239069. 93075.

AU Long-S-H. Rodgers-J.

IN RAND, Washington, DC.

TI *Managed* competition estimates for policy making.

SO Health-Aff (Millwood). 1993. 12 Suppl. P 243-7.

JT HEALTH AFFAIRS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). HEALTH-POLICY.

MANAGED-CARE-PROGRAMS: economics (ec).

NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).

MN HEALTH-EXPENDITURES. HUMAN. UNITED-STATES.

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ND ENTRY DATE: 930521.

36

AN 93239068. 93075.

AU Enthoven-A-C.

TI The history and principles of *managed* competition.

SO Health-Aff (Millwood). 1993. 12 Suppl. P 24-48.

JT HEALTH AFFAIRS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB *Managed* competition in health *care* is an idea that has evolved over
two decades of research and refinement. It is defined as a
purchasing strategy to obtain maximum value for consumers and
employers, using rules for competition derived from microeconomic
principles. A sponsor (either an employer, a governmental entity, or
a purchasing cooperative), acting on behalf of a large group of
subscribers, structures and adjusts the market to overcome attempts
by insurers to avoid price competition. The sponsor establishes
rules of equity, selects participating plans, manages the enrollment
process, creates price-elastic demand, and manages risk selection.

Managed competition is based on comprehensive *care* organizations that integrate financing and delivery. Prospects for its success are based on the success and potential of a number of high-quality, cost-effective, organized systems of *care* already in existence, especially prepaid group practices. As it is outlined here, *managed* competition as a means to reform the U.S. health *care* system is compatible with Americans' preferences for pluralism, individual choice and responsibility, and universal coverage. Author-abstract.

MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).

MN HEALTH-POLICY. HUMAN. UNITED-STATES.

YR 1993.

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37

AN 93239067. 93075.

AU Sheils-J-F. Lewin-L-S. Haught-R-A.

IN Lewin-VHI, Fairfax, VA.

TI Potential public expenditures under *managed* competition.

SO Health-Aff (Millwood). 1993. 12 Suppl. P 229-42.

JT HEALTH AFFAIRS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This DataWatch estimates the public cost of providing universal coverage under a *managed* competition model. First, a uniform benefit package is specified; next, the lowest-cost premium for this coverage is estimated, based on average costs in a *well-managed* health maintenance organization (HMO). Based on these estimates, the cost of premium subsidies and tax revenue effects are determined. It is estimated that if coverage is extended to currently uninsured persons using these estimates and assumptions, spending for these persons will increase 73.9 percent over current levels. The authors estimate a net increase of \$47.9 billion in 1993 health spending under a *managed* competition program with low patient cost sharing. This includes savings of \$4.5 billion from wider use of *managed* *care* and \$11.2 billion in administrative cost savings. Author-abstract.

MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). HEALTH-EXPENDITURES. *MANAGED-CARE-PROGRAMS:* economics (ec). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).

MN COSTS-AND-COST-ANALYSIS. HUMAN. RATE-SETTING-AND-REVIEW. UNITED-STATES.

YR 1993.

IS 0278-2715. GAG.

CP UNITED-STATES (Z1.107.567.875).

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ND ENTRY DATE: 930521.

38

AN 93239066. 93075.
AU Fielding-J-E. Rice-T.
IN Department of Health Services, School of Public Health, University of California, Los Angeles.
TI Can *managed* competition solve the problems of market failure?
SO Health-Aff (Millwood). 1993. 12 Suppl. P 216-28.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
MN ECONOMIC-COMPETITION. EFFICIENCY. HUMAN. UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
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AN 93239065. 93075.
AU Aaron-H-J. Schwartz-W-B.
IN Brookings Institution, Washington, DC.
TI *Managed* competition: little cost containment without budget limits.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 204-15.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ BUDGETS. COMPETITIVE-MEDICAL-PLANS: economics (ec). COST-CONTROL. *MANAGED-CARE-PROGRAMS:* economics (ec). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
MN HUMAN. UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930521.

40

AN 93239063. 93075.
AU Reinhardt-U-E.
IN Princeton University.
TI Reorganizing the financial flows in American health *care.*
SO Health-Aff (Millwood). 1993. 12 Suppl. P 172-93.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The essays in this volume concentrate heavily on *"managed"

competition," which is merely a particular form of controlling the flow of funds from an insurance pool to the providers of health *care.* By contrast, this essay emphasizes the funneling of money into the insurance fund. It is argued inter alia that American business has been a quite unreliable partner in the financing of American health *care* and also a major cost driver. A reformed health system should reduce the role of business to the mere collection of premiums at the nexus of payroll. Author-abstract.

MJ FINANCIAL-MANAGEMENT. INSURANCE-CARRIERS: economics (ec).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
MN COMPETITIVE-MEDICAL-PLANS: economics (ec). CONSUMER-PARTICIPATION:
economics (ec). GOVERNMENT. HUMAN. INSURANCE-POOLS.
MANAGED-CARE-PROGRAMS: economics (ec). RATE-SETTING-AND-REVIEW.
UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
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ND ENTRY DATE: 930521.

41

AN 93239061. 93075.
AU Mullan-F. Rivo-M-L. Politzer-R-M.
TI Doctors, dollars, and determination: making physician work-force
policy.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 138-51.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Because *managed* *care* is likely to feature prominently in a reformed health *care* system, policymakers need to examine the impact *managed* *care* will have on medical practice, physician supply, and access to primary *care* providers. Goals for work-force reform should focus on five areas: (1) training physicians in the generalist disciplines of family practice, general internal medicine, and general pediatrics; (2) shaping the physician work force to reflect the nation's ethnic diversity; (3) distributing physicians in a geographically equitable way; (4) maintaining the current physician-to-population ratio rather than letting it continue to grow; and (5) establishing supply needs for nurse practitioners, primary *care* physician assistants, and certified nurse midwives. Author-abstract.
MJ EDUCATION-MEDICAL: economics (ec). HEALTH-MANPOWER: trends (td).
HEALTH-POLICY: trends (td). PHYSICIANS-FAMILY:
supply-and-distribution (sd).
MN COMPETITIVE-MEDICAL-PLANS. EDUCATION-MEDICAL:
legislation-and-jurisprudence (lj). HEALTH-MANPOWER:
legislation-and-jurisprudence (lj). HEALTH-POLICY:
legislation-and-jurisprudence (lj). HEALTH-SERVICES-ACCESSIBILITY.
HUMAN. *MANAGED-CARE-PROGRAMS:* manpower (ma). PHYSICIANS-FAMILY:
education (ed). TRAINING-SUPPORT: legislation-and-jurisprudence

(lj). UNITED-STATES.
YR 1993.
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CP UNITED-STATES (Z1.107.567.875).
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AN 93239060. 93075.
AU Schlesinger-M. Mechanic-D.
IN Department of Epidemiology and Public Health, Yale University Medical School.
TI Challenges for *managed* competition from chronic illness.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 123-37.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CHRONIC-DISEASE: economics (ec). COMPETITIVE-MEDICAL-PLANS: organization-and-administration *(og).MANAGED-CARE-PROGRAMS: organization-and-administration (og). NATIONAL-HEALTH-INSURANCE-UNITED-STATES.
MN ADULT. CONSUMER-PARTICIPATION: economics (ec). HEALTH-POLICY. HUMAN. MIDDLE-AGE. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
YR 1993.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930521.
NO 43450.

43

AN 93239059. 93075.
AU Hillman-A-L. Greer-W-R. Goldfarb-N.
IN Division of General Internal Medicine, University of Pennsylvania School of Medicine.
TI Safeguarding quality in *managed* competition.
SO Health-Aff (Millwood). 1993. 12 Suppl. P 110-22.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-MEDICAL-PLANS: standards (st). *MANAGED-CARE-PROGRAMS: standards (st). NATIONAL-HEALTH-INSURANCE-UNITED-STATES: standards (st). *QUALITY-ASSURANCE-HEALTH-CARE.*
MN COMPETITIVE-MEDICAL-PLANS: economics (ec). CONSUMER-ADVOCACY. HUMAN. *MANAGED-CARE-PROGRAMS: economics (ec). RATE-SETTING-AND-REVIEW. UNITED-STATES.
YR 1993.
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CP UNITED-STATES (Z1.107.567.875).
IM 9307.

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44

AN 93238399. 93075.

AU Grant-Kels-J-M. Kels-B-D.

IN Division of Dermatology, University of Connecticut Health Center,
Farmington.

TI Major issues confronting the practicing dermatologist in the 1990s.

SO Dermatol-Clin. 1993 Apr. 11(2). P 233-9.

JT DERMATOLOGIC CLINICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Protein issues confront the dermatologic practitioner in this last decade of the twentieth century, including 1) the role of *managed* *care;* 2) the decline of direct access to the specialist; 3) malpractice liability and the need for reform; 4) declining reimbursements in the face of escalating practice overhead; and 5) conflict between the individual's right to *care* and society's ability to subsidize that right. Correcting and improving the American health *care* system demands a return to the emphasis and values that made that system the envy of the entire world. We must re-emphasize the sanctity of the doctor-patient relationship, halt the incursion upon physician autonomy, and eliminate those third party factors such as insurance companies, bureaucrats, and administrators that accentuate commerce instead of compassion in medicine. It is hoped that by expanding and equalizing the American health *care* system, it is not made unpalatable and unresponsive to every citizen.
Author-abstract.

MJ DERMATOLOGY: trends (td).

MN DERMATOLOGY: economics (ec), legislation-and-jurisprudence (lj).

HEALTH-SERVICES-ACCESSIBILITY. HUMAN. MALPRACTICE.

MANAGED-CARE-PROGRAMS. PATIENT-ADVOCACY.

PRACTICE-MANAGEMENT-MEDICAL: economics (ec).

REIMBURSEMENT-MECHANISMS.

SB Priority Journals (M).

YR 1993.

IS 0733-8635. DER.

CP UNITED-STATES (Z1.107.567.875).

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45

AN 93235852. 93074.

AU Skootsky-S-A. Oye-R-K.

IN Division of General Internal Medicine and Health Services Research,
UCLA School of Medicine.

TI The changing relationship between clinicians and the laboratory
medicine specialist in the *managed* *care* era.

SO Am-J-Clin-Pathol. 1993 Apr. 99(4 Suppl 1). P S7-11.

JT AMERICAN JOURNAL OF CLINICAL PATHOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Largely because of increased *health-care* costs, a variety of *managed-care* programs have been developed, and payment plans based on capitation will probably predominate in the future. Capitated, per-case, or per diem payment plans alter the traditional independence of *health-care* providers from the payment system. In these systems, clinical laboratory use becomes a resource to be *managed,* rather than a neutral third party or a source of income. Under capitated payment systems, clinicians will be motivated to reevaluate their own clinical laboratory resource use. Successful laboratory medicine specialists will understand these trends as well as the impact of newer payment plans on the relationship between themselves and clinicians, and develop new strategies to work with clinical colleagues to effect change. Author-abstract.

MJ CLINICAL-MEDICINE: organization-and-administration (og).

INTERPROFESSIONAL-RELATIONS. LABORATORY-PERSONNEL:

organization-and-administration (og). *MANAGED-CARE-PROGRAMS:*

organization-and-administration (og). SPECIALTIES-MEDICAL:

organization-and-administration (og).

MN CAPITATION-FEE: standards (st). CLINICAL-MEDICINE: economics (ec),

trends (td). CLINICAL-PROTOCOLS: standards (st). COST-CONTROL.

FINANCIAL-MANAGEMENT: economics (ec), organization-and-administration

(og), standards (st). FORECASTING. HUMAN. LABORATORY-PERSONNEL:

economics (ec), trends (td). *MANAGED-CARE-PROGRAMS:* economics (ec),

trends (td). MEDICAL-STAFF: education (ed).

QUALITY-ASSURANCE-HEALTH-CARE. REIMBURSEMENT-MECHANISMS.

SPECIALTIES-MEDICAL: economics (ec), trends (td).

SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1993.

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CP UNITED-STATES (Z1.107.567.875).

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46

AN 93235850. 93074.

AU Peterson-P. Hilborne-L-H.

IN Department of Pathology, New York Hospital-Cornell Medical Center, NY 10021.

TI Facing *managed* *care's* challenge to pathology.

SO Am-J-Clin-Pathol. 1993 Apr. 99(4 Suppl 1). P S3-6.

JT AMERICAN JOURNAL OF CLINICAL PATHOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *MANAGED-CARE-PROGRAMS:* trends (td). PATHOLOGY: trends (td).

MN COST-CONTROL. FORECASTING. HUMAN. LABORATORY-PERSONNEL: standards

(st), trends (td). *MANAGED-CARE-PROGRAMS:*

organization-and-administration (og), standards (st). PATHOLOGY:
organization-and-administration (og), standards (st).
QUALITY-OF-HEALTH-CARE. ROLE. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0002-9173. 3FK.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930520.

47

AN 93235847. 93074.
AU Cohen-C-G.
IN Department of Health Affairs, Eastman Kodak, Washington, DC 20006.
TI View from Washington. Reimbursement and regulatory trends.
SO Am-J-Clin-Pathol. 1993 Apr. 99(4 Suppl 1). P S17-21.
JT AMERICAN JOURNAL OF CLINICAL PATHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). LABORATORY-PERSONNEL.
REFERRAL-AND-CONSULTATION: standards (st). REIMBURSEMENT-MECHANISMS:
standards (st).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec),
legislation-and-jurisprudence (lj). FACILITY-REGULATION-AND-CONTROL:
economics (ec), legislation-and-jurisprudence (lj), standards (st).
FRAUD: legislation-and-jurisprudence (lj). HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec), standards (st), trends (td).
POLITICS. REFERRAL-AND-CONSULTATION: economics (ec),
legislation-and-jurisprudence (lj). REIMBURSEMENT-MECHANISMS:
legislation-and-jurisprudence (lj). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0002-9173. 3FK.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930520.

48

AN 93234076. 93074.
AU Graybeal-K-B. Gheen-M. McKenna-B.
TI Clinical pathway development: the Overlake Model.
SO Nurs-Manage. 1993 Apr. 24(4). P 42-5.
JT NURSING MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Overlake Hospital Medical Center has developed a multi-faceted *Care*
Management Model to improve clinical and fiscal outcomes for selected
patient populations. The Clinical Pathway Component of this model

has been applied to high-volume, high-loss DRG groups. Success of the program can be attributed to the unique multidisciplinary problem solving approach, team building and a focus beyond the inpatient hospital stay. Author-abstract.

MJ *MANAGED-CARE-PROGRAMS.* MODELS-THEORETICAL.
NURSING-SERVICE-HOSPITAL: organization-and-administration (og).
MN CHIEF-EXECUTIVE-OFFICERS-HOSPITAL. HOSPITAL-BED-CAPACITY-100-TO-299.
HOSPITALS-COMMUNITY. HUMAN. MEDICAL-STAFF-HOSPITAL.
PATIENT-CARE-TEAM. WASHINGTON.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0744-6314. OBV.
CP UNITED-STATES (Z1.107.567.875).
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49

AN 93232541. 93074.
AU Hollingsworth-E-J.
IN University of Wisconsin, Madison.
TI Falling through the cracks: *care* of the chronically mentally ill in the United States, Germany, and the United Kingdom.
SO J-Health-Polit-Policy-Law. 1992 Winter. 17(4). P 899-928.
JT JOURNAL OF HEALTH POLITICS, POLICY AND LAW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In comparing the development and strength of community-based services for the chronically mentally ill in the United States, Germany, and the United Kingdom, I analyze how the structure of each country's general medical system has influenced services for the chronically mentally ill and the extent to which more universal medical *care* systems are associated with stronger community-based systems for the mentally ill. Community-based services are frail and inadequate in all three countries, in each country for different reasons. The specifics of organization of the health *care* system seem less important in shaping these outcomes than the status of mental health *care* as a national priority. Author-abstract.
MJ COMMUNITY-MENTAL-HEALTH-SERVICES. MENTAL-DISORDERS.
MN CHRONIC-DISEASE. COMMUNITY-MENTAL-HEALTH-SERVICES: economics (ec), organization-and-administration (og),supply-and-distribution (sd). COST-CONTROL. *DELIVERY-OF-HEALTH-CARE.* FINANCING-ORGANIZED. GERMANY. GREAT-BRITAIN. HEALTH-EXPENDITURES. HEALTH-MANPOWER. HEALTH-POLICY. HEALTH-RESOURCES. HOSPITALIZATION. HOSPITALS-PSYCHIATRIC. HOUSING. HUMAN. INSURANCE-HEALTH: economics (ec). *MANAGED-CARE-PROGRAMS.* MENTAL-DISORDERS: drug-therapy (dt), therapy (th). PUBLIC-ASSISTANCE: economics (ec). SOCIAL-WELFARE: economics (ec). STATE-MEDICINE: economics (ec). UNITED-STATES. VOLUNTARY-HEALTH-AGENCIES.
SB Priority Journals (M).

YR 1992.
IS 0361-6878. IBC.
CP UNITED-STATES (Z1.107.567.875).
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AN 93226713. 93073.
AU Paley-W-D.
IN Community Health Plan, Latham, NY 12110.
TI Overview of the HMO movement.
SO Psychiatr-Q. 1993 Spring. 64(1). P 5-12.
JT PSYCHIATRIC QUARTERLY.
PT HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article provides a short historical review of the HMO movement to set the stage for current HMO developments. It notes the underlying causes of the proliferation of HMO *managed* *care* models. It defines what should be the rudiments of a quality HMO program and how the changing societal environment will bring new pressures to bear on HMO programs of the future. As related to the future, the author outlines a direction for national health *care* reforms. The article concludes that the health *care* emphasis of the 90s should be in returning some of the responsibility of health *care* to individual Americans through *self-care* programs that focus on behavioral change, in turn, leading to healthier Americans, the keys to containing out of control health *care* costs. Author-abstract.
MJ HEALTH-MAINTENANCE-ORGANIZATIONS: history (hi). INSURANCE-HEALTH: economics (ec).
MN FEMALE. HEALTH-MAINTENANCE-ORGANIZATIONS: organization-and-administration (og), utilization(ut). HISTORY-OF-MEDICINE-18TH-CENT. HISTORY-OF-MEDICINE-20TH-CENT. HUMAN. INDEPENDENT-PRACTICE-ASSOCIATIONS: organization-and-administration (og). MALE. MENTAL-HEALTH-SERVICES: utilization (ut). *SELF-CARE.* UNITED-STATES.
SB Priority Journals (M).
YR 1993.
IS 0033-2720. QBP.
CP UNITED-STATES (Z1.107.567.875).
IM 9307.
ND ENTRY DATE: 930513.

51

AN 93226712. 93073.
AU Bennett-M-J.
IN Harvard Medical School, Belmont, Massachusetts.
TI View from the bridge: reflections of a recovering staff model HMO psychiatrist.
SO Psychiatr-Q. 1993 Spring. 64(1). P 45-75.
JT PSYCHIATRIC QUARTERLY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).

AB The phenomenon of *managed* *care* is misperceived by its critics as a movement. Atheoretical in nature, and driven by spiralling health *care* costs, it represents the introduction of an executive function into the free-for-all (a supremely ironic term) of American medicine. Part one of this article traces the origin and development of the mental health carve-out, relating it to its antecedents, and describing its 3 overlapping phases: utilization review, discounted fees, and network development and management. Part two describes the key concept of the continuum of *care* and the role of the case manager in monitoring a *care* episode. The article concludes by anticipating seven future trends and calling for mental health leadership to recognize and ally with the need to manage resources in a more rational and efficient manner. Author-abstract. 41 Refs.

MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration (og). HEALTH-MAINTENANCE-ORGANIZATIONS: organization-and-administration (og). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).

MN COMMUNITY-MENTAL-HEALTH-SERVICES: trends (td).
DELIVERY-OF-HEALTH-CARE: trends (td). FEMALE.
HEALTH-MAINTENANCE-ORGANIZATIONS: trends (td). HUMAN. MALE.
MANAGED-CARE-PROGRAMS: trends (td). UNITED-STATES.

SB Priority Journals (M).

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52

AN 93226711. 93073.

AU Reidy-W-J Jr.

IN Community Health Plan, Latham, New York 12110.

TI Staff model HMO's and *managed* mental health *care:* one plan's experience.

SO Psychiatr-Q. 1993 Spring. 64(1). P 33-44.

JT PSYCHIATRIC QUARTERLY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB HMO staff model mental health programs have particular expertise in providing these services in an integrated fashion within the context of a total medical *care* system. "Carve-out" approaches to *managed* mental health *care* risk losing the added value found in primary *care* based integrated mental health services. Employers as purchasers of *care* are seeking demonstrated value in services, and the rise of specialty mental health *managed* *care* firms is bringing the efficiencies of *managed* mental health *care* familiar to HMO's to a broader audience. Faced with employer concerns, and this new competitive environment, many HMO's are examining their mental health

services to determine how these services may respond to the needs being expressed by employers today for new program options. The Community Health Plan's (CHP) experience is presented to illustrate one approach HMO's are taking in today's competitive health *care* environment. Author-abstract.

MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration (og). HEALTH-MAINTENANCE-ORGANIZATIONS: organization-and-administration (og). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MN COMMUNITY-MENTAL-HEALTH-SERVICES: economics (ec), utilization (ut). FEMALE. HEALTH-MAINTENANCE-ORGANIZATIONS: economics (ec), utilization (ut). HUMAN. INTERPROFESSIONAL-RELATIONS. MALE. *MANAGED-CARE-PROGRAMS:* economics (ec), utilization (ut). MENTAL-DISORDERS: therapy (th). PSYCHOTHERAPY. *QUALITY-OF-HEALTH-CARE.* UNITED-STATES.
SB Priority Journals (M).
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AN 93225350. 93073.
AU Greaser-T. Kempf-R. Burns-D.
TI Nursing case management in a rural setting.
SO Kans-Nurse. 1993 Mar. 68(3). P 3-4.
JT KANSAS NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-HEALTH-NURSING. HEART-FAILURE-CONGESTIVE: nursing (nu). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). RURAL-HEALTH.
MN AGED. CASE-REPORT. COMMUNITY-HEALTH-SERVICES: organization-and-administration (og). FEMALE. HUMAN. KANSAS.
SB Nursing Journals (N).
LI N.
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CP UNITED-STATES (Z1.107.567.875).
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54

AN 93225349. 93073.
AU Aiken-M.
TI Collaborative *care* in the acute *care* setting.
SO Kans-Nurse. 1993 Mar. 68(3). P 10-1.
JT KANSAS NURSE.
PT JOURNAL-ARTICLE (ART).

LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NURSING-CARE.
MN HUMAN. LENGTH-OF-STAY.
SB Nursing Journals (N).
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AN 93225348. 93073.
AU Nelson-J.
TI Case management: *care* across the continuum.
SO Kans-Nurse. 1993 Mar. 68(3). P 1-2.
JT KANSAS NURSE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NURSE-ADMINISTRATORS. *NURSING-CARE.*
MN HEALTH-POLICY. HUMAN. NURSE-CLINICIANS. NURSE-PRACTITIONERS.
UNITED-STATES.
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AN 93225347. 93073.
AU Young-A-A.
TI Case management: are we ready? `editorial:.
SO Kans-Nurse. 1993 Mar. 68(3). P 1.
JT KANSAS NURSE.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NURSING-CARE.
MN HUMAN. UNITED-STATES.
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57

AN 93225312. 93073.
AU Nelson-M-S.
TI Critical pathways in the emergency department.
SO J-Emerg-Nurs. 1993 Apr. 19(2). P 110-4.
JT JOURNAL OF EMERGENCY NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The actual development of the CP is an easy undertaking that an experienced emergency nurse can accomplish. The important points to remember are as follows: (1) include all disciplines that provide patient *care* in the development of the CP, (2) use realistic time frames (i.e., those currently found to be true in the emergency department, not those that are perceived to be ideal), (3) thoroughly educate the staff about the value of the CP in the emergency department, and, finally, (4) make sure that staff members know how to document variances. CPs in the emergency department give physicians and nurses common ground on which to negotiate patient *care* management more efficiently and effectively. They are a logical way to bring case management into the acute *care* setting. With the cost of ED visits continually rising, patient acuity levels increasing, and resources declining, expedient, coordinated, multidisciplinary action is crucial in giving total quality *care* to each patient. Author-abstract.
MJ CLINICAL-PROTOCOLS. EMERGENCY-SERVICE-HOSPITAL: organization-and-administration (og). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MN HUMAN. NURSING-STAFF-HOSPITAL: education (ed). *PATIENT-CARE-PLANNING.*
SB Nursing Journals (N).
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IS 0099-1767. KRU.
CP UNITED-STATES (Z1.107.567.875).
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AN 93222863. 93073.
AU Moore-K.
TI Case management provides flexibility, opportunity for nurses as managers.
SO Midwest-Alliance-Nurs-J. 1992 Fall. 3(2). P 12-8.
JT MIDWEST ALLIANCE IN NURSING JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NURSE-ADMINISTRATORS. NURSING-STAFF-HOSPITAL.
MN HOSPITAL-ADMINISTRATION. HUMAN.

SB Nursing Journals (N).
LI N.
YR 1992.
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AN 93217368. 93072.
AU Rogers-H-L Jr.
TI Medicine, 2003 `editorial:.
SO J-Med-Assoc-Ga. 1993 Jan. 82(1). P 11-2.
JT JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.
PT EDITORIAL (EDI).
LG English (EN).
MJ CONTRACT-SERVICES: trends (td). *DELIVERY-OF-HEALTH-CARE:* trends (td). *MANAGED-CARE-PROGRAMS:* trends (td).
MN FORECASTING. GEORGIA. HUMAN.
YR 1993.
IS 0025-7028. IZB.
CP UNITED-STATES (Z1.107.567.875).
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AN 93217220. 93072.
AU Verdier-J.
TI Medicaid rescue effort to be 'painful' `interview by Bob Carlson:.
SO Indiana-Med. 1993 Mar-Apr. 86(2). P 134-41.
JT INDIANA MEDICINE.
PT INTERVIEW (INT).
LG English (EN).
MJ *HEALTH-CARE-COSTS:* trends (td). HEALTH-EXPENDITURES: trends (td). MEDICAID: economics (ec).
MN COST-CONTROL: legislation-and-jurisprudence (lj). HEALTH-EXPENDITURES: legislation-and-jurisprudence (lj). HUMAN. INDIANA. *MANAGED-CARE-PROGRAMS:* economics (ec), legislation-and-jurisprudence (lj). MEDICAID: legislation-and-jurisprudence (lj). UNITED-STATES.
YR 1993.
IS 0746-8288. IDA.
CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 930504.

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AN 93216870. 93072.
AU Deming-Q-B.
IN Bronx Municipal Hospital, New York.

TI A prescription for national health *care* reform.
 SO Hosp-Pract (Off Ed). 1993 Apr 15. 28(4). P 21, 25-8.
 JT HOSPITAL PRACTICE (OFFICE EDITION).
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 LG English (EN).
 AB Insurance systems for controlling costs--quality assurance, preadmission clearance, length-of-stay control--actually add to costs, and also subtract from the quality of patient *care.* Step one: Eliminate those systems. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og). HEALTH-POLICY. PUBLIC-HEALTH-ADMINISTRATION.
 MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). HOSPITALIZATION: economics (ec). HOSPITALS-PRIVATE. HUMAN. INSURANCE-CLAIM-REVIEW. INSURANCE-HEALTH: economics (ec). LENGTH-OF-STAY: economics (ec). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). *QUALITY-ASSURANCE-HEALTH-CARE.* UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
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 CP UNITED-STATES (Z1.107.567.875).
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AN 93216269. 93072.
 AU Blankenau-R.
 TI Medicare meets reform. Integrating Medicare poses a puzzle for reformers.
 SO Hospitals. 1993 Apr 20. 67(8). P 42-4.
 JT HOSPITALS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Many reformers say reform must extend to Medicare to control rising costs. But getting Medicare patients to embrace *managed* *care,* and melding disparate payment methods during the transition, will pose major challenges. Author-abstract.
 MJ HEALTH-POLICY: economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec). MEDICARE: organization-and-administration (og).
 MN AGED. ATTITUDE-TO-HEALTH. CONSUMER-PARTICIPATION: economics (ec). HUMAN. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). MEDICARE: economics (ec). REIMBURSEMENT-INCENTIVE. UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1993.
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 ND ENTRY DATE: 930506.

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 IN Johns Hopkins University School of Medicine, Baltimore, MD.
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 SO Hosp-Community-Psychiatry. 1993 Apr. 44(4). P 325-7.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
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 MN CAPITATION-FEE: trends (td). CONTRACT-SERVICES: economics (ec), trends (td). COST-CONTROL: trends (td). *HEALTH-CARE-RATIONING:* economics (ec), trends (td). HUMAN. LENGTH-OF-STAY: economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec). MENTAL-DISORDERS: economics (ec). *QUALITY-ASSURANCE-HEALTH-CARE:* economics (ec), trends (td). UNITED-STATES.
 SB Priority Journals (M).
 YR 1993.
 IS 0022-1597. GCJ.
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 ND ENTRY DATE: 930506.

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AN 93210412. 93071.
 AU Harkey-J-B.
 TI *Managed* *care* in Georgia: a market assessment.
 SO J-Med-Assoc-Ga. 1993 Mar. 82(3). P 129-34.
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 LG English (EN).
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 MN GEORGIA. HEALTH-MAINTENANCE-ORGANIZATIONS: organization-and-administration (og). HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). PREFERRED-PROVIDER-ORGANIZATIONS: organization-and-administration (og).
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 AU Juip-M-P.
 TI Implications of clinical advancement systems and nurse case managers on the diabetes educator.
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 JT DIABETES EDUCATOR.
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LG English (EN).
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 MN CAREER-MOBILITY. DIABETES-MELLITUS: rehabilitation (rh). HUMAN.
 INSERVICE-TRAINING. PRECEPTORSHIP.
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 YR 1993.
 IS 0145-7217. EBG.
 CP UNITED-STATES (Z1.107.567.875).
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AN 93207438. 93064.
 AU Rutkow-I-M.
 IN University of Medicine and Dentistry of New Jersey, Newark.
 TI Railway surgery. Traumatology and *managed* health *care* in
 19th-century United States.
 SO Arch-Surg. 1993 Apr. 128(4). P 458-63.
 JT ARCHIVES OF SURGERY.
 PT HISTORICAL-ARTICLE (HRT). HISTORICAL-BIOGRAPHY (HBI).
 JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Railway surgery was an organized movement in the late 19th century
 that had as its primary goal the systematic study of accident or
 trauma surgery. Railway surgeons, although often regarded with
 contempt by their fellow physicians, fostered such revolutionary
 concepts in health *care* provision as private inpatient hospitals and
 rudimentary *managed* *care* plans. Railway surgery and its proponents
 are a long-forgotten chapter in the history of US surgery, but they
 serve as an apt example of how studying and understanding the past
 can enable us to be better prepared to cope with the present and the
 future. Author-abstract.
 MJ *MANAGED-CARE-PROGRAMS:* history (hi). RAILROADS: history (hi).
 TRAUMATOLOGY: history (hi).
 MN HISTORY-OF-MEDICINE-19TH-CENT. HISTORY-OF-MEDICINE-20TH-CENT.
 HUMAN. PUBLISHING: history (hi). SOCIETIES-MEDICAL: history (hi).
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 PN Herrick-C-B.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
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TI Case management and nursing theory-based practice.
SO Nurs-Sci-Q. 1993 Spring. 6(1). P 8-9.
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LG English (EN).
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MN HUMAN.
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AU Braden-B.
TI Case management: what's it all about? `interview:.
SO Nebr-Nurse. 1993 Feb. 26(1). P 30.
JT NEBRASKA NURSE.
PT INTERVIEW (INT).
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AU Bocchino-C-A.
TI A new accountability in health *care:* providers, insurers, and patients.
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TI Park Nicollet responds to change with some of its own `interview:.
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economics (ec).
MN COST-CONTROL: trends (td). HUMAN. MINNESOTA.
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LG English (EN).
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AN 93202324. 93064.
AU Hershey-S-L.
TI Insurance, access and *managed* *care* `letter:.
SO Del-Med-J. 1993 Feb. 65(2). P 145-6.
JT DELAWARE MEDICAL JOURNAL.
PT LETTER (LET).
LG English (EN).

MJ *DELIVERY-OF-HEALTH-CARE.* HEALTH-SERVICES-ACCESSIBILITY.
INSURANCE-HEALTH-REIMBURSEMENT. *MANAGED-CARE-PROGRAMS.*
MN HUMAN. UNITED-STATES.
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CP UNITED-STATES (Z1.107.567.875).
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AN 93198044. 93063.
AU Richardson-M.
TI *Managed* *Care* Check-Up to help physicians shop for best plan.
SO Tex-Med. 1993 Mar. 89(3). P 62.
JT TEXAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONTRACT-SERVICES: legislation-and-jurisprudence (lj).
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MN HUMAN. TEXAS.
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JT TEXAS MEDICINE.
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MJ ECONOMIC-COMPETITION: legislation-and-jurisprudence (lj).
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MN HUMAN. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj).
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AU Stenholm-C-W.
TI The high-priority/low-fat diet: a reduction plan for the federal

deficit.

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JT ACADEMIC MEDICINE.

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LG English (EN).

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ECONOMICS: trends (td).

MN BUDGETS: trends (td). COST-CONTROL. *DELIVERY-OF-HEALTH-CARE:*
standards (st), trends (td).FORECASTING. HEALTH-EXPENDITURES:
statistics-and-numerical-data (sn), trends (td). HUMAN.
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ORGANIZATIONAL-INNOVATION. POLITICS. UNITED-STATES.

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TI Bill puts Hillary in charge of overhauling our healthcare system
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PT EDITORIAL (EDI).

LG English (EN).

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NATIONAL-HEALTH-INSURANCE-UNITED-STATES: standards (st). POLITICS.

MN COST-CONTROL. HUMAN. UNITED-STATES.

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CP UNITED-STATES (Z1.107.567.875).

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AN 93187083. 93062.

AU Kortbawi-P-A.

TI An orientation plan for hospital-based case managers.

SO J-Contin-Educ-Nurs. 1993 Mar-Apr. 24(2). P 69-73.

JT JOURNAL OF CONTINUING EDUCATION IN NURSING.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The key to a successful case management program is the case manager.
This article is a description of a six-week orientation program
provided for new case managers at St. Peter's Medical Center in New
Jersey. The principal components of the program are basic content

modules, addressing individual learning needs, specific teaching strategies, and a self-paced approach. Author-abstract.

MJ INSERVICE-TRAINING. *MANAGED-CARE-PROGRAMS:* manpower (ma).
NURSING-STAFF-HOSPITAL: education (ed).
MN CURRICULUM. DIAGNOSIS-RELATED-GROUPS. HUMAN.
MANAGED-CARE-PROGRAMS: standards (st). NEW-JERSEY. NURSING-PROCESS.
QUALITY-ASSURANCE-HEALTH-CARE.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0022-0124. HWD.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930408.

78

AN 93186401. 93062.
AU Wolford-G-R. Brown-M. McCool-B-P.
IN Alliant Health System, Louisville, KY.
TI Getting to go in *managed* *care.*
SO *Health-Care-Manage-Rev.* 1993 Winter. 18(1). P 7-19.
JT HEALTH *CARE* MANAGEMENT REVIEW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB *Managed* *care* has clearly pointed the way to bringing health *care* costs under control. But the providers themselves, right now, must either take on the responsibility of more directly managing *care,* bringing utilization down, and sharing in the rewards, or they could find themselves asked to sacrifice while intermediaries prosper.
Author-abstract.
MJ COMPETITIVE-MEDICAL-PLANS: economics (ec). HEALTH-POLICY: trends (td). *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec), trends (td).
MODELS-ORGANIZATIONAL. ORGANIZATIONAL-OBJECTIVES.
SOCIAL-RESPONSIBILITY. UNITED-STATES.
SB Priority Journals (M).
YR 1993.
IS 0361-6274. G11.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930402.

79

AN 93186281. 93062.
AU Alonso-A.
TI AGPA and the village well.
SO Int-J-Group-Psychother. 1993 Jan. 43(1). P 1-9.
JT INTERNATIONAL JOURNAL OF GROUP PSYCHOTHERAPY.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This article is based on the author's presidential address, which was presented at the 50th anniversary meeting of the American Group Psychotherapy Association in February of 1992. Using the metaphor of the village well, Dr. Alonso argues that AGPA faces both the opportunity and challenge to serve as the leader in facilitating communication among four diverse groups: colleagues in other professional organizations; academia and its training programs; the world of *managed* *care* and third-party payers; and, the consumers of our services, our patients. Author-abstract.

MJ INTERINSTITUTIONAL-RELATIONS. INTERPROFESSIONAL-RELATIONS. ORGANIZATIONAL-OBJECTIVES. PSYCHOTHERAPY-GROUP.

MN HUMAN.

YR 1993.

IS 0020-7284. GRH.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930407.

80

AN 93185979. 93062.

AU Belcher-J-R.

IN School of Social Work, University of Maryland, Baltimore 21201.

TI The trade-offs of developing a case management model for chronically mentally ill people.

SO Health-Soc-Work. 1993 Feb. 18(1). P 20-31.

JT HEALTH AND SOCIAL WORK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB This article addresses the role of case management in the *care* of chronically mentally ill people. Trade-offs often occur because case management is frequently used to achieve the conflicting goals of reducing service use costs and raising the quality of life for clients. Despite these trade-offs, case management can be effective if it is designed so that services match client needs and the costs of services are measured accurately. Case management for chronically mentally ill people is particularly difficult to design because their level of functioning and need for intensive services are such that the cost to deliver the appropriate services is great. The profit-maximizing nature of the U.S. health *care* system makes some form of capitation likely in the design of case management services for this population. Author-abstract. 68 Refs.

MJ *MANAGED-CARE-PROGRAMS:* economics (ec), organization-and-administration (og). MENTAL-HEALTH-SERVICES: economics (ec), organization-and-administration (og).

MN CHRONIC-DISEASE. COST-CONTROL. HUMAN. *MANAGED-CARE-PROGRAMS:* standards (st). MENTAL-HEALTH-SERVICES: standards (st). SOCIAL-WORK. UNITED-STATES.

SB Priority Journals (M).

YR 1993.

IS 0360-7283. FZ6.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930407.

81

AN 93185866. 93062.
AU Clowe-J-L.
TI Address of the president of the AMA.
SO Del-Med-J. 1993 Mar. 65(3). P 225-6.
JT DELAWARE MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-PLANNING.
MN AMERICAN-MEDICAL-ASSOCIATION. ATTITUDE-OF-HEALTH-PERSONNEL. HUMAN.
MANAGED-CARE-PROGRAMS. PHYSICIANS. UNITED-STATES.
YR 1993.
IS 0011-7781. E0B.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930405.

82

AN 93179274. 93061.
AU Weissberg-J-H.
IN Columbia University.
TI The psychoanalytic envelope.
SO J-Am-Acad-Psychoanal. 1992 Winter. 20(4). P 497-508.
JT JOURNAL OF THE AMERICAN ACADEMY OF PSYCHOANALYSIS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ BIOLOGICAL-PSYCHIATRY: trends (td). *MANAGED-CARE-PROGRAMS:* trends (td). PSYCHOANALYTIC-THERAPY: trends (td).
MN CONSUMER-SATISFACTION. FORECASTING. HUMAN.
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. PSYCHOANALYTIC-THERAPY: methods (mt). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0090-3604. HAC.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930331.

83

AN 93178104. 93061.
AU Cerra-F-B.
IN Department of Surgery, University of Minnesota, Minneapolis.
TI Healthcare reform: the role of coordinated critical *care.*
SO *Crit-Care-Med.* 1993 Mar. 21(3). P 457-64.
JT CRITICAL *CARE* MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE: To evaluate and editorialize the evolving role of the discipline of critical *care* as a healthcare delivery system in the process of healthcare reform. DATA SOURCES: The sources included material from the Federal Office of Management and Budget, Health *Care* Financing Review, President Bush's Office, Association of American Medical Colleges, and publications of the Society of Critical *Care* Medicine. STUDY SELECTION: Data were selected that the author felt was relevant to the healthcare reform process and its implications for the discipline of critical *care.* DATA EXTRACTION: The data were extracted by the author to illustrate the forces behind healthcare reform, the implications for the practice of critical *care,* and role of critical *care* as a coordinated *(managed)* *care* system in the process of healthcare reform. DATA SYNTHESIS: Healthcare reform has been initiated because of a number of considerations that arise in evaluating the current healthcare delivery system: access, financing, cost, dissatisfactions with the mechanisms of delivery, and political issues. The reform process will occur with or without the involvement of critical *care* practitioners. Reforms may greatly alter the delivery of critical *care* services, education, training, and research in critical *care.* Critical *care* has evolved into a healthcare delivery system that provides services to patients who need and request them and provides these services in a coordinated *(managed)* *care* model. CONCLUSIONS: Critical *care* practitioners must become involved in the healthcare reform process, and critical *care* services that are effective must be preserved, as must the education, training, and research programs. Critical *care* as a healthcare delivery system utilizing a coordinated *(managed)* *care* model has the potential to provide services to all patients who need them and to deliver them in a manner that is cost effective and recognized as providing added value. Author-abstract.

MJ *CRITICAL-CARE.* *DELIVERY-OF-HEALTH-CARE.*

MN HUMAN. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1993.

IS 0090-3493. DTF.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930331.

84

AN 93177308. 93061.

AU Kisthardt-W-E. Gowdy-E. Rapp-C-A.

TI Factors related to successful goal attainment in case management.

SO J-Case-Manag. 1992 Winter. 1(4). P 117-23.

JT JOURNAL OF CASE MANAGEMENT.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Goal planning is fundamental to the case management process. Manager

and client identify specific long-term goals and then systematically break them down into the incremental behaviors needed to be accomplished to achieve each goal. The goal-setting process may fail as a result of four types of factors: (1) behavioral, (2) cognitive, (3) affective, and (4) environmental. To decrease the likelihood of failure, case managers must be knowledgeable about goal planning. They must help the client set goals that are expressed positively, that are client focused, realistic and achievable, measurable, and easily understood, with one observable outcome per goal. For both case manager and client, setting and attaining goals must be viewed as part of a continuing learning process, rather than a success-failure dichotomy. Author-abstract.

MJ GOALS. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
PATIENT-CARE-PLANNING: standards (st).
MN HOLISTIC-HEALTH. HUMAN. PATIENT-PARTICIPATION.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

85

AN 93177307. 93061.
AU Cress-C.
TI The business of for-profit case management.
SO J-Case-Manag. 1992 Winter. 1(4). P 113-6.
JT JOURNAL OF CASE MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The growing number of older Americans is creating a major market for home *care* and case management services. Large corporations are entering the field to cash in on the beckoning profits. Individuals who are moving from not-for-profit case management agencies to start their own for-profit businesses bring solid values and much needed experience. However, they must learn to respect their knowledge for its financial worth and to apply solid business skills if they are to succeed against the large diversified corporations entering the field. Author-abstract.
MJ ENTREPRENEURSHIP. *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og). MARKETING-OF-HEALTH-SERVICES:
organization-and-administration (og). PRIVATIZATION.
MN HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td).
MARKETING-OF-HEALTH-SERVICES: trends (td). PRIVATIZATION: trends
(td).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

86

AN 93177306. 93061.
AU Parker-M.
TI Private geriatric *care* management: how families are served.
SO J-Case-Manag. 1992 Winter. 1(4). P 108-12.
JT JOURNAL OF CASE MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article provides a synopsis of a 1987 study of private *care* management and looks at the reasons why individuals and families seek out and use the services of private *care* managers. Among the most common reasons are: to negotiate the *long-term-care* system, to get help in filling out forms, to get objective assistance in assessing options, to mediate family conflict over what to do, and to plan and monitor the *care* of family members. Author-abstract.
MJ GERIATRICS: organization-and-administration (og).
MANAGED-CARE-PROGRAMS: utilization (ut).
PATIENT-ACCEPTANCE-OF-HEALTH-CARE. PRIVATIZATION.
MN AGED. GERIATRICS: statistics-and-numerical-data (sn).
HEALTH-SERVICES-RESEARCH. HUMAN. *MANAGED-CARE-PROGRAMS:*
statistics-and-numerical-data (sn). PRIVATIZATION:
statistics-and-numerical-data (sn). UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

87

AN 93177305. 93061.
AU Kaye-L-W.
TI The evolution of private geriatric *care* management. Guidelines for responsible practice.
SO J-Case-Manag. 1992 Winter. 1(4). P 103-7.
JT JOURNAL OF CASE MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Fueled by a series of demographic, occupational, and programmatic trends, private firms providing *care* management services to the elderly and their families have experienced rapid growth. A range of leadership challenges faces social workers entering this specialty. Exemplary ethical and professional behavior will ultimately determine the extent to which private geriatric *care* managers become a central component of the gerontological services network. Author-abstract.

MJ GERIATRICS: standards (st). *MANAGED-CARE-PROGRAMS:* standards (st).
PRIVATIZATION: standards (st). PROFESSIONAL-PRACTICE: standards
(st).
MN AGED. GERIATRICS: trends (td). HUMAN. *MANAGED-CARE-PROGRAMS:*
trends (td). PRIVATIZATION: trends (td).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

88

AN 93177304. 93061.
AU Quinn-J.
TI Private, for-profit geriatric case management `editorial:.
SO J-Case-Manag. 1992 Winter. 1(4). P 102, 136.
JT JOURNAL OF CASE MANAGEMENT.
PT EDITORIAL (EDI).
LG English (EN).
MJ COMMUNITY-HEALTH-SERVICES: trends (td). GERIATRICS: trends (td).
MANAGED-CARE-PROGRAMS: trends (td). PRIVATIZATION: trends (td).
MN AGED. HUMAN.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930401.

89

AN 93172024. 93054.
AU Ratliff-M-S.
IN OHSU School of Dentistry, Oregon.
TI *Managed* *care:* the values squeeze.
SO J-Oreg-Dent-Assoc. 1992 Fall. 62(1). P 26-31.
JT JOURNAL OF THE OREGON DENTAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-CARE-COSTS.* *MANAGED-CARE-PROGRAMS.*
MN *HEALTH-CARE-RATIONING.* HUMAN. OREGON.
SB Dental Journals (D).
LI D.
YR 1992.
IS 0030-4670. JIP.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930325.

90

AN 93168503. 93054.
AU Barnsteiner-J-H. Mohan-A. Milberger-P.
TI Implementing *managed* *care* in a pediatric setting.
SO *AACN-Clin-Issues-Crit-Care-Nurs.* 1992 Nov. 3(4). P 777-87.
JT AACN CLINICAL ISSUES IN CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A challenge in the current nursing environment is the ability to provide *care* cost-effectively and yet achieve desired patient outcomes. The *managed* *care* delivery system facilitates achievement of these goals. The system incorporates management of time, resources, and personnel so that patient outcomes are achieved within appropriate time frames. This article describes the design and implementation of a *managed* *care* delivery system in a children's hospital. Author-abstract.
MJ *INTENSIVE-CARE-UNITS-PEDIATRIC:* organization-and-administration (og).
MANAGED-CARE-PROGRAMS: organization-and-administration (og).
PRIMARY-NURSING-CARE: organization-and-administration (og).
MN HOSPITALS-PEDIATRIC. HUMAN. NURSING-RECORDS.
QUALITY-ASSURANCE-HEALTH-CARE.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1046-7467. ATW.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930324.

91

AN 93168502. 93054.
AU Gunderson-L. Kenner-C.
TI Case management in the neonatal intensive *care* unit.
SO *AACN-Clin-Issues-Crit-Care-Nurs.* 1992 Nov. 3(4). P 769-76.
JT AACN CLINICAL ISSUES IN CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article will provide the reader with an overview of the concept of case management as it is used by the neonatal nurse practitioner in a neonatal intensive *care* unit. The role of the neonatal nurse practitioner as a case manager will be compared and contrasted to the roles of the primary nurse and staff nurse. The collaborative role with physicians will be described. Future directions for neonatal case management also will be addressed. Author-abstract.
MJ *INTENSIVE-CARE-UNITS-NEONATAL:* organization-and-administration (og).
MANAGED-CARE-PROGRAMS: organization-and-administration (og).
NURSE-PRACTITIONERS: organization-and-administration (og).
MN HUMAN. JOB-DESCRIPTION. MODELS-ORGANIZATIONAL.
NURSING-STAFF-HOSPITAL. *PRIMARY-NURSING-CARE.*

SB Nursing Journals (N).
LI N.
YR 1992.
IS 1046-7467. ATW.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930324.

92

AN 93168501. 93054.
AU Ahrens-T.
TI Nurse clinician model of *managed* *care.*
SO *AACN-Clin-Issues-Crit-Care-Nurs.* 1992 Nov. 3(4). P 761-8.
JT AACN CLINICAL ISSUES IN CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Many different models of delivering nursing *care* have been proposed, each with specific advantages and disadvantages. One such model, the nurse clinician model, uses the strengths of advanced clinical practice as the cornerstone for improving quality in patient *care.* The increase in quality simultaneously produces an efficient and cost-effective system, as indicated by the results of a multiyear study at our institution. While other effective models exist, those that emphasize advanced clinical practice, such as the nurse clinician model, are most likely to achieve improved patient outcomes and conserve resource expenditures. Author-abstract.
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MODELS-NURSING. MODELS-ORGANIZATIONAL. NURSE-CLINICIANS:
organization-and-administration (og).
MN HUMAN. *INTENSIVE-CARE-UNITS:* organization-and-administration (og).
QUALITY-ASSURANCE-HEALTH-CARE: organization-and-administration (og).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1046-7467. ATW.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930324.

93

AN 93168500. 93054.
AU McElroy-M-J. Campbell-S.
TI Case management with the nurse manager in the role of case manager in an interventional cardiology unit.
SO *AACN-Clin-Issues-Crit-Care-Nurs.* 1992 Nov. 3(4). P 749-60.
JT AACN CLINICAL ISSUES IN CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Varying external and internal factors are motivating changes in how physicians and nurses deliver patient *care* within *health-care*

institutions. A *care* delivery system that has received increasing attention in the literature is case management. This chapter describes how a community hospital implemented case management for patients undergoing percutaneous coronary angioplasty and cardiac catheterization while developing the new role of clinical manager to serve in the role of case manager. The process for planning and implementing such a role change is discussed, and initial evaluative data are presented. Author-abstract.

MJ *CORONARY-CARE-UNITS:* organization-and-administration (og).
MANAGED-CARE-PROGRAMS: organization-and-administration (og).
NURSING-SUPERVISORY: organization-and-administration (og).
MN ANGIOPLASTY-TRANSLUMINAL-PERCUTANEOUS-CORONARY.
HEART-CATHETERIZATION. HUMAN. JOB-DESCRIPTION.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1046-7467. ATW.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930324.

94

AN 93167419. 93053.
AU Cummings-N-A.
IN Foundation for Behavioral Health, South San Francisco, CA 94080.
TI Basic principles of psychotherapy: introduction `comment:.
CM Comment on: Am J Psychother 1993 Winter;47(1):8-18. Comment on: Am J Psychother 1993 Winter;47(1):19-32.
SO Am-J-Psychother. 1993 Winter. 47(1). P 5-7.
JT AMERICAN JOURNAL OF PSYCHOTHERAPY.
PT COMMENT (COM). JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* economics (ec). PSYCHOTHERAPY: economics (ec). *QUALITY-ASSURANCE-HEALTH-CARE:* economics (ec).
MN COST-CONTROL: trends (td). HUMAN. PSYCHOTHERAPY-BRIEF: economics (ec).
SB Priority Journals (M).
YR 1993.
IS 0002-9564. 3XA.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930316.

95

AN 93166418. 93053.
AU Pearlman-T.
TI *Managed* *care* threatens doctor/patient relationship `letter:.
SO Tex-Med. 1992 Dec. 88(12). P 9.
JT TEXAS MEDICINE.
PT LETTER (LET).

LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. *MANAGED-CARE-PROGRAMS.*
PHYSICIAN-PATIENT-RELATIONS.
MN HUMAN.
YR 1992.
IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930317.

96

AN 93164974. 93053.
AU Shaw-D-A.
TI Clinics without walls. Alternative practice structures for
physicians in independent practice.
SO Minn-Med. 1993 Feb. 76(2). P 29-33.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Clinics Without Walls will function as integrated medical practice
business organizations for the purpose of carrying out ventures
approved by their boards of directors, including the delivery of
patient *care* services under contract to *managed* *care* organizations or
others. The networks will be responsible for receiving revenue for
contracted services and for paying expenses. Patient *care* should be
enhanced by this structure, which will result in improved
communications and information exchange among participating
physicians and greater patient access to convenient, decentralized
medical facilities. Patients and physicians will likely benefit from
the expanded services made available through shared network
resources. As mentioned above, the MMA and the Hennepin and Ramsey
county medical societies are currently developing a detailed Clinics
Without Walls prototype that will be made available for
implementation during the first half of 1993. Author-abstract.
MJ *AMBULATORY-CARE-FACILITIES:* trends (td). *PATIENT-CARE-TEAM:* trends
(td). PHYSICIANS-PRACTICE-PATTERNS: trends (td). PRIVATE-PRACTICE:
trends (td).
MN HUMAN. MINNESOTA. PRACTICE-MANAGEMENT-MEDICAL: trends (td).
YR 1993.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930317.

97

AN 93164709. 93053.
AU Padgett-D-K. Patrick-C. Burns-B-J. Schlesinger-H-J. Cohen-J.
IN School of Social Work, New York University, New York.
TI The effect of insurance benefit changes on use of child and
adolescent outpatient mental health services.

SO *Med-Care.* 1993 Feb. 31(2). P 96-110.
 JT MEDICAL *CARE.*
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Use of outpatient mental health services by dependent children younger than 18 years of age enrolled in the Blue Cross and Blue Shield Federal Employees Plan (FEP) is examined in 1978 and 1983 focusing on a cut in benefits and a shift from high- to low-option plan enrollment between those years. While use rates increased from 2.13% to 2.76% by 1983, the average number of visits decreased from 18.9 to 12.8. High-option plan use exceeded low-option plan use in both years--2.26% versus 0.81% in 1978 and 3.58% versus 1.93% in 1983. In addition to benefit plan, ethnicity, parent's education, type of provider, and type of treatment setting also significantly predicted amount of use. Despite the strong evidence of the effects of benefit coverage, it is likely that need exceeded use even in this insured population of children and adolescents. Implications of the findings are discussed in the context of recent dramatic changes in mental service delivery including privatization, *managed* *care* initiatives to cut costs, and growing pressures for national health insurance. Author-abstract.
 MJ INSURANCE-PSYCHIATRIC: statistics-and-numerical-data (sn). MENTAL-HEALTH-SERVICES: utilization (ut).
 MN ADOLESCENCE. *AMBULATORY-CARE-FACILITIES:* utilization (ut). BLUE-CROSS: statistics-and-numerical-data (sn). BLUE-SHIELD: statistics-and-numerical-data (sn). CHILD. CHILD-PRESCHOOL. CROSS-SECTIONAL-STUDIES. DEMOGRAPHY. DISTRICT-OF-COLUMBIA. ETHNIC-GROUPS. FEMALE. HUMAN. INSURANCE-BENEFITS. MALE. MENTAL-HEALTH-SERVICES: economics (ec). PROBABILITY. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
 SB Priority Journals (M).
 YR 1993.
 IS 0025-7079. LSM.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930312.
 NO 45509.

98

AN 93164548. 93053.
 AU Meidinger-R.
 TI *Managed* competition: answer to the health *care* dilemma?
 SO Kans-Med. 1993 Jan. 94(1). P 6, 11.
 JT KANSAS MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMPETITIVE-BIDDING: legislation-and-jurisprudence (lj).
 HEALTH-CARE-COSTS: legislation-and-jurisprudence (lj).
 MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj).
 MN COMPETITIVE-BIDDING: economics (ec). COST-CONTROL:

legislation-and-jurisprudence (lj).HUMAN. *MANAGED-CARE-PROGRAMS:*
economics (ec). UNITED-STATES.

YR 1993.

IS 8755-0059. KT4.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930318.

99

AN 93163924. 93053.

TI Comparing case management styles.

SO J-Nurs-Adm. 1993 Jan. 23(1). P 6, 38, 59.

JT JOURNAL OF NURSING ADMINISTRATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ COMMUNITY-HEALTH-NURSING: organization-and-administration (og).

LONG-TERM-CARE: organization-and-administration (og).

MANAGED-CARE-PROGRAMS: organization-and-administration (og).

MEDICARE: organization-and-administration (og).

MN COMMUNITY-HEALTH-NURSING: economics (ec). COMPARATIVE-STUDY. HUMAN.

LONG-TERM-CARE: economics (ec). MODELS-NURSING. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing
Journals (N).

YR 1993.

IS 0002-0443. JEL.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930317.

100

AN 93163918. 93053.

AU Feldman-C. Olberding-L. Shortridge-L. Toole-K. Zappin-P.

IN Cincinnati Health Department, OH.

TI Decision making in case management of home healthcare clients.

SO J-Nurs-Adm. 1993 Jan. 23(1). P 33-8.

JT JOURNAL OF NURSING ADMINISTRATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Public health nurses face ethical decision-making dilemmas in their
everyday practice, but how well are they prepared to make these
decisions? This research study examined the decision-making
capabilities of nurses in case management in regard to terminating
and maintaining services in difficult client situations. The results
showed that nurses varied in their decision-making capabilities and
that their beliefs about case management were not always carried out
in actual practice. Author-abstract.

MJ DECISION-MAKING. *HOME-CARE-SERVICES:* organization-and-administration
(og). *PATIENT-CARE-PLANNING.* PUBLIC-HEALTH-NURSING:
organization-and-administration (og).

MN ADULT. AGE-FACTORS. FEMALE. HUMAN. MALE. *MANAGED-CARE-PROGRAMS.*

MIDDLE-AGE. MODELS-NURSING. OHIO. TIME-FACTORS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing Journals (N).
YR 1993.
IS 0002-0443. JEL.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930317.

101

AN 93163917. 93053.
AU Erkel-E-A.
IN Medical University of South Carolina, College of Nursing, Charleston.
TI The impact of case management in preventive services.
SO J-Nurs-Adm. 1993 Jan. 23(1). P 27-32.
JT JOURNAL OF NURSING ADMINISTRATION.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The success of case management in increasing the use of community-based services among a variety of chronically ill and medically fragile populations and in decreasing the frequency and length of stay of hospitalization is well documented. Less well established is its impact in preventive services and cost effectiveness, and the effect on health outcomes. The author discusses evidence of the effectiveness and cost effectiveness of case management in preventive services and other healthcare contexts. Finally, the author asks an important question, that is, what differentiates the context in which case management is effective from others? The author suggests that nurse case managers are the crucial determinant of successful case management. Author-abstract. 46 Refs.
MJ *MANAGED-CARE-PROGRAMS.* *PATIENT-CARE-PLANNING:* organization-and-administration (og). PREVENTIVE-HEALTH-SERVICES: organization-and-administration (og).
MN COMMUNITY-HEALTH-NURSING: organization-and-administration (og). COST-BENEFIT-ANALYSIS. FEMALE. HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). PREGNANCY. PREVENTIVE-HEALTH-SERVICES: economics (ec). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing Journals (N).
YR 1993.
IS 0002-0443. JEL.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930317.

102

AN 93163503. 93053.
AU Reinertson-W-W.
TI What are the appropriate skills and knowledge of reimbursement

systems needed for the entry-level practice of optometry?

SO J-Am-Optom-Assoc. 1992 Dec. 63(12). P 867-9.

JT JOURNAL OF THE AMERICAN OPTOMETRIC ASSOCIATION.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB Health *care* reimbursement has increasingly become a major factor in the day-to-day practice of optometry. This paper, originally presented at the 1992 Summit on Optometric Education, outlines the various types of programs the optometrist should be familiar with, and emphasizes the importance of the integration of such knowledge into the curriculum of the schools and colleges of optometry.

Author-abstract. 0 Refs.

MJ OPTOMETRY: economics (ec). PROFESSIONAL-PRACTICE.
REIMBURSEMENT-MECHANISMS.

MN HUMAN. *MANAGED-CARE-PROGRAMS.* OPTOMETRY: education (ed).
UNITED-STATES.

YR 1992.

IS 0003-0244. H82.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930315.

103

AN 93162608. 93053.

AU Kirk-S-A. Koeske-G-F. Koeske-R-D.

IN Columbia University School of Social Work, New York, NY 10025.

TI Changes in health and job attitudes of case managers providing intensive services.

SO Hosp-Community-Psychiatry. 1993 Feb. 44(2). P 168-73.

JT HOSPITAL AND COMMUNITY PSYCHIATRY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE: The health, personal life, and attitudes of case managers providing intensive services to severely mentally ill clients were evaluated to see how the managers changed over their first 18 months on the job. The authors report here on changes on major variables related to health status and job attitudes. METHODS: A cohort of 82 case managers newly hired during the first year of New York State's intensive case management program was followed for 18 months. A battery of measures of health, life events, life satisfaction, social support, job situation, and job attitude was administered by mail questionnaire at job entry and at three, 12, and 18 months to case managers who remained employed in the program. RESULTS: Approximately 80 percent of the eligible (still-employed) case managers responded at each time point; 64 were still employed at the end of the study. Over time they experienced increasing amounts of job stress and emotional exhaustion, depersonalized clients more, and reported significantly more stress-related physical symptoms and depressive symptoms. However, their sense of personal accomplishment and their job satisfaction remained stable. CONCLUSIONS: Case

managers appeared able to overcome job pressures and persevere in their professional commitment. What difficulties they had appeared to level off after one year, at least among those who continued in their positions. Although the findings do not indicate that case managers need intensive help, early support and preventive intervention for job difficulties would be helpful.

Author-abstract.

MJ ATTITUDE-OF-HEALTH-PERSONNEL. ATTITUDE-TO-HEALTH. JOB-SATISFACTION.
PATIENT-CARE-PLANNING: organization-and-administration (og).
MN ADULT. BURNOUT-PROFESSIONAL: psychology (px). COHORT-STUDIES.
FEMALE. HUMAN. MALE. *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og). NEW-YORK.
PROFESSIONAL-PATIENT-RELATIONS. SUPPORT-NON-U-S-GOVT. WORKLOAD:
psychology (px).
SB Priority Journals (M).
YR 1993.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930318.

104

AN 93160749. 93053.
AU Wade-M-R.
TI Community based nurse case managers: a model to meet New Zealand's
changing health *care* needs.
SO Nurs-Prax-N-Z. 1992 Nov. 7(3). P 4-10.
JT NURSING PRAXIS IN NEW ZEALAND.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Policy-makers are concerned to find ways to improve the quality,
accessibility and continuity of *care,* contain costs and ultimately to
reduce the rate of institutionalisation. The health reform in New
Zealand proposes to open up the way for nurses to be more extensively
and effectively involved in primary and community based *care* in order
to meet these needs. The role of nurses as community based nurse
case managers in the United States is reviewed and demonstrates very
clearly not only is the quality of health *care* enhanced but also the
client and fiscal outcomes improved. The challenge from the reform
is for nurses to see the opportunities and to take the initiative
before it is taken by other disciplines. Author-abstract.
MJ COMMUNITY-HEALTH-NURSING: organization-and-administration (og).
HEALTH-SERVICES-NEEDS-AND-DEMAND: trends (td).
MANAGED-CARE-PROGRAMS: organization-and-administration (og).
MODELS-NURSING.
MN HUMAN. NEW-ZEALAND.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0112-7438. BIY.

CP NEW-ZEALAND (Z1.730).
IM 9305.
ND ENTRY DATE: 930312.

105

AN 93159526. 93053.
AU Nash-D-B. Markson-L-E. Howell-S. Hildreth-E-A.
TI Evaluating the competence of physicians in practice: from peer review to performance assessment.
SO Acad-Med. 1993 Feb. 68(2 Suppl). P S19-22.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Evaluation of physician competence has traditionally been defined by the medical profession largely through standardized tests and board certifying examinations. However, a level of physician evaluation that takes place outside academic medical centers and certifying boards is rapidly developing. This article describes three programs for such physician evaluation: (1) the program of US Healthcare, a national *managed* health *care* company; (2) the DEMPAQ--Developing and Evaluating Methods to Promote Ambulatory *Care* Quality--project, a joint research effort between Harvard University (Cambridge, Massachusetts) and the State of Maryland's (and District of Columbia's) Peer Review Organization (PRO); and (3) a project initiated by the American College of Physicians (ACP) in Philadelphia, Pennsylvania, to assess both medical competence and technical performance in the hospital setting. The authors argue for the need to inform physicians-in-training about the types of evaluation to which they will be subjected over the courses of their careers. In order to further this goal, the authors advocate increased collaboration between leaders in the academic setting and those spearheading these new programs for assessment of physician performance. Author-abstract.
MJ CLINICAL-COMPETENCE. PEER-REVIEW. PROGRAM-DEVELOPMENT.
MN *AMBULATORY-CARE.* HUMAN. *MANAGED-CARE-PROGRAMS:* standards (st). PERSONNEL-HOSPITAL. *QUALITY-ASSURANCE-HEALTH-CARE.* UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1993.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930312.

106

AN 93158508. 93052.
AU Strandberg-L-R. Pallari-R-J. Fullerton-D-S.
IN College of Pharmacy, Oregon State University, Portland.
TI The realities of *managed* health *care* and pharmacy practice.
SO Am-Pharm. 1992 Dec. NS32(12). P 50-5.
JT AMERICAN PHARMACY.

PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS.* PHARMACIES: economics (ec).
MN COST-SAVINGS. FINANCIAL-MANAGEMENT. *HEALTH-CARE-COSTS.* HUMAN.
PHARMACISTS: economics (ec). UNITED-STATES.
YR 1992.
IS 0160-3450. 3BX.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930310.

107

AN 93155972. 93052.
AU Van-Dongen-C-J. Jambunathan-J.
IN College of Nursing, University of Wisconsin, Oshkosh 54901.
TI Pilot study results: the psychiatric RN case manager.
SO J-Psychosoc-Nurs-Ment-Health-Serv. 1992 Nov. 30(11). P 11-4.
JT JOURNAL OF PSYCHOSOCIAL NURSING AND MENTAL HEALTH SERVICES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB 1. It is important to examine client and staff satisfaction with the RN case management (RNCM) model to enhance the quality of *care* in psychiatric settings. 2. Ninety-two percent of clients surveyed ranked the RNCM *care* as "excellent" or "above average." Clients valued most the humanistic role of the RNCM and repeatedly commented on the importance of the nurse being caring, genuine, and supportive. 3. RNCMs expressed high satisfaction with their role, which they described as collaborative with the psychiatrist, yet also professional and independent. Psychiatrists expressed a high degree of confidence that clients were receiving excellent *care* by competent nurse professionals. Author-abstract.
MJ JOB-DESCRIPTION. *MANAGED-CARE-PROGRAMS:* standards (st). PSYCHIATRIC-NURSING: standards (st). *QUALITY-OF-HEALTH-CARE.*
MN ADULT. ATTITUDE-OF-HEALTH-PERSONNEL. FEMALE. HUMAN. MALE. *MANAGED-CARE-PROGRAMS:* economics (ec). NURSING-EVALUATION-RESEARCH. PATIENT-SATISFACTION. PILOT-PROJECTS. PSYCHIATRIC-NURSING: economics (ec), methods (mt).
SB Priority Journals (M). Nursing Journals (N).
YR 1992.
IS 0279-3695. JUW.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930308.

108

AN 93154976. 93052.
AU Gold-J. Shera-D. Clarkson-B Jr.
IN Westwood Lodge Hospital, MA.
TI Private psychiatric hospitalization of children: predictors of length of stay.

SO J-Am-Acad-Child-Adolesc-Psychiatry. 1993 Jan. 32(1). P 135-43.
 JT JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB OBJECTIVE: To quantitatively identify predictors and determinants of length of psychiatric hospital stay for children. METHOD: Forty-seven demographic, psychosocial stressor, psychopathology, and disposition variables were statistically reviewed as correlates of length of stay in 100 consecutive discharges from a child psychiatry inpatient service (age range 4-12) in a private hospital. Those with strong statistical significance were then analyzed by multiple regression. RESULTS: Greater severity of psychopathology (measured by the Children's Global Assessment Scale), greater severity of psychosocial stressors (by Axis IV scale), diagnosis of post-traumatic stress disorder, special educational and out-of-home dispositions, and severe tantrums in hospital all strongly predicted longer hospital stay. Diagnosis of adjustment disorder predicted shorter stay. Together these variables explained 57% of the total variance in length of stay. CONCLUSIONS: The most powerful of these predictor variables could potentially be measured at the time of admission, thus permitting accurate prediction of length of stay. A set of models was generated for this purpose. Author-abstract.
 MJ LENGTH-OF-STAY. MENTAL-DISORDERS: rehabilitation (rh).
 MN CHILD. CHILD-PRESCHOOL. COMPARATIVE-STUDY. FEMALE. HOSPITALIZATION. HOSPITALS-PSYCHIATRIC. HUMAN. LIFE-CHANGE-EVENTS. MALE. *MANAGED-CARE-PROGRAMS:* economics (ec). MENTAL-DISORDERS: classification (cl), diagnosis (di).MENTAL-HEALTH. PILOT-PROJECTS. PSYCHIATRIC-STATUS-RATING-SCALES. RETROSPECTIVE-STUDIES.
 YR 1993.
 IS 0890-8567. HG5.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930310.

109

AN 93151299. 93051.
 AU Yank-G-R. Bentley-K-J. Hargrove-D-S.
 IN Department of Psychiatric Medicine, University of Virginia, Charlottesville.
 TI The vulnerability-stress model of schizophrenia: advances in psychosocial treatment.
 SO Am-J-Orthopsychiatry. 1993 Jan. 63(1). P 55-69.
 JT AMERICAN JOURNAL OF ORTHOPSYCHIATRY.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB Vulnerability models of schizophrenia are reviewed, along with psychosocial rehabilitation methods addressing functional abilities and social competence. Their relationship is discussed with a view to developing a framework in which biological and psychosocial approaches to schizophrenia can be integrated for purposes of

effective clinical intervention. Such intervention is designed to improve social competence, cognitive appraisal, and coping skills for mediation of stress in vulnerable individuals. Author-abstract. 100 Refs.

MJ SCHIZOPHRENIA: rehabilitation (rh). SCHIZOPHRENIC-PSYCHOLOGY. SOCIAL-ENVIRONMENT. SOCIOENVIRONMENTAL-THERAPY. STRESS-PSYCHOLOGICAL: complications (co).
MN ADAPTATION-PSYCHOLOGICAL. COMBINED-MODALITY-THERAPY. FOLLOW-UP-STUDIES. HUMAN. *MANAGED-CARE-PROGRAMS.* SOCIAL-BEHAVIOR.
SB Priority Journals (M).
YR 1993.
IS 0002-9432. 3R6.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

110

AN 93150522. 93051.
AU Gregg-S-A.
TI How can we achieve more value from our *managed* *care* efforts?
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 89-95.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-POLICY. *MANAGED-CARE-PROGRAMS:* standards (st). *QUALITY-ASSURANCE-HEALTH-CARE.*
MN COST-CONTROL. HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec),organization-and-administration (og). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

111

AN 93150521. 93051.
AU Lee-A-J.
TI Key factors affecting the future of *managed* *care.*
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 83-8.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-MAINTENANCE-ORGANIZATIONS: trends (td).
MN AGED. FORECASTING. HUMAN. INTERINSTITUTIONAL-RELATIONS. MEDICARE. MIDDLE-AGE. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).

IM 9305.
ND ENTRY DATE: 930302.

112

AN 93150518. 93051.
AU Schroeder-R-E. Atkinson-A-M. Armstrong-R-N.
TI Pricing medical services in the *managed* *care* environment.
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 58-64.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FINANCIAL-MANAGEMENT-HOSPITAL: methods (mt). *MANAGED-CARE-PROGRAMS:*
economics (ec). RATE-SETTING-AND-REVIEW: methods (mt).
MN COST-ALLOCATION. FEES-AND-CHARGES. HUMAN.
MANAGEMENT-INFORMATION-SYSTEMS. RISK. UNITED-STATES.
UTILIZATION-REVIEW.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

113

AN 93150517. 93051.
AU Boles-K-E.
TI Insolvency in *managed* *care* organizations: financial indicators.
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 40-57.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ BANKRUPTCY. HEALTH-MAINTENANCE-ORGANIZATIONS: economics (ec).
MANAGED-CARE-PROGRAMS: economics (ec).
MN BANKRUPTCY: statistics-and-numerical-data (sn). COST-CONTROL.
HUMAN. RISK-MANAGEMENT. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

114

AN 93150516. 93051.
AU Smith-D-G.
TI Provider involvement in *managed* *care* underwriting.
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 33-9.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

MJ FINANCIAL-MANAGEMENT: methods (mt). *MANAGED-CARE-PROGRAMS:* economics (ec).
MN ACTUARIAL-ANALYSIS. CONTRACT-SERVICES: organization-and-administration (og). FEES-AND-CHARGES. HUMAN. INSURANCE-SELECTION-BIAS. *MANAGED-CARE-PROGRAMS:* utilization (ut). RATE-SETTING-AND-REVIEW: organization-and-administration (og). RISK-MANAGEMENT.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

115

AN 93150515. 93051.
AU Welge-W-L.
TI *Managed* *care* is limited by the information system.
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 23-32.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). MANAGEMENT-INFORMATION-SYSTEMS.
MN CONTRACT-SERVICES: organization-and-administration (og). DATA-DISPLAY. HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

116

AN 93150514. 93051.
AU Jones-L-F. Font-J-A.
TI Meeting employer needs in the *managed* *care* request for proposal process.
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 18-22.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMPETITIVE-BIDDING. FINANCIAL-MANAGEMENT-HOSPITAL. HEALTH-BENEFIT-PLANS-EMPLOYEE: economics (ec). *MANAGED-CARE-PROGRAMS:* economics (ec).
MN COST-CONTROL. DECISION-MAKING. HUMAN. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).

IM 9305.
ND ENTRY DATE: 930302.

117

AN 93150513. 93051.
AU Lewis-J-B.
TI Hospital strategic management and *managed* *care.*
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 11-7.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HOSPITAL-ADMINISTRATION. *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og).
MN DECISION-MAKING. HEALTH-MAINTENANCE-ORGANIZATIONS:
organization-and-administration (og). HUMAN. *MANAGED-CARE-PROGRAMS:*
standards (st). ORGANIZATIONAL-OBJECTIVES. PLANNING-TECHNIQUES.
PREFERRED-PROVIDER-ORGANIZATIONS: organization-and-administration
(og). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

118

AN 93150512. 93051.
AU Brooke-P-P Jr.
TI Successfully managing *managed* *care:* organizational skills needed by
hospitals to compete in an era of *managed* *care.*
SO *Top-Health-Care-Financ.* 1992 Winter. 19(2). P 1-10.
JT TOPICS IN HEALTH *CARE* FINANCING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HOSPITAL-ADMINISTRATION: trends (td). *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og).
MN CONTRACT-SERVICES. FINANCIAL-MANAGEMENT-HOSPITAL.
HOSPITAL-INFORMATION-SYSTEMS. HUMAN. *MANAGED-CARE-PROGRAMS:*
economics (ec). MEDICAL-STAFF-HOSPITAL. ORGANIZATIONAL-INNOVATION.
PLANNING-TECHNIQUES. PROFESSIONAL-COMPETENCE.
QUALITY-ASSURANCE-HEALTH-CARE. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

119

AN 93149306. 93051.

AU Michels-D-E.
TI Medicaid and *managed* *care* for Nebraska. A draft proposal (or one man's opinion).
SO Nebr-Med-J. 1993 Jan. 78(1). P 13-5.
JT NEBRASKA MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ MEDICAID: economics (ec). *PRIMARY-HEALTH-CARE:* organization-and-administration (og).
MN FEMALE. *HEALTH-CARE-COSTS.* HEALTH-SERVICES-FOR-THE-AGED. HUMAN. MALE. MEDICAID: standards (st). MENTAL-HEALTH. NEBRASKA. *PRIMARY-HEALTH-CARE:* economics (ec), utilization (ut). RURAL-HEALTH. UNITED-STATES.
YR 1993.
IS 0091-6730. NU0.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

120

AN 93147530. 93051.
AU Terry-J.
TI Commission criticizes fee-for-service system.
SO Indiana-Med. 1993 Jan-Feb. 86(1). P 22-3.
JT INDIANA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ FEES-MEDICAL: legislation-and-jurisprudence (lj).
HEALTH-POLICY:legislation-and-jurisprudence (lj).
HEALTH-SERVICES-MISUSE: legislation-and-jurisprudence (lj).
MN HUMAN. INDIANA. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj).
YR 1993.
IS 0746-8288. IDA.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

121

AN 93146545. 93051.
AU Van-Gelder-D-W.
IN Bethesda PsycHealth System, Denver, CO 80222.
TI Surviving in an era of *managed* *care:* lessons from Colorado.
SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1145-7.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* economics (ec). MENTAL-DISORDERS: rehabilitation (rh). MENTAL-HEALTH-SERVICES: economics (ec).
MN COLORADO. COST-CONTROL: trends (td). HOSPITALS-PSYCHIATRIC:

economics (ec). HUMAN. LENGTH-OF-STAY: economics (ec).
 MARKETING-OF-HEALTH-SERVICES: economics (ec). MENTAL-DISORDERS:
 economics (ec), psychology (px). MORALE.
 SB Priority Journals (M).
 YR 1992.
 IS 0022-1597. GCJ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930226.

122

AN 93146540. 93051.
 AU Baker-N-J. Giese-A-A.
 IN Central Mental Health Service, Group Health Cooperative of Puget
 Sound, Seattle, WA 98101.
 TI Reorganization of a private psychiatric unit to promote collaboration
 with *managed* *care*.
 SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1126-9.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB *Managed* *care* organizations have become significantly involved in
 health *care* in the Denver metropolitan area. Their presence has
 challenged psychiatric hospitals to reduce costs and length of stay.
 In 1990, a locked private psychiatric unit was reorganized into
 locked, open, and partial *care* services through which patients
 progress at individualized rates. One treatment team manages
 patients in all settings, allowing a reduction in staffing costs and
 flexibility in treatment design. The hospital administration takes
 an active role in facilitating collaborative decision making between
 hospital clinicians and *managed* *care* representatives. In the first
 year after reorganization, length of stay was significantly reduced;
 90 percent of patients were discharged from 24-hour *care* within ten
 days or less, whereas only 40 percent were discharged within that
 time in the original program. Staffing costs were reduced by 15
 percent. No increase in recidivism was noted. Author-abstract.
 MJ HOSPITAL-RESTRUCTURING: organization-and-administration (og).
 HOSPITALS-PSYCHIATRIC: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 MENTAL-DISORDERS: therapy (th).
 MN ADJUSTMENT-DISORDERS: economics (ec), psychology (px), therapy (th).
 ADULT. BIPOLAR-DISORDER: economics (ec), psychology (px), therapy
 (th). COST-BENEFIT-ANALYSIS. DEPRESSIVE-DISORDER: economics (ec),
 psychology (px), therapy (th). FEMALE. FOLLOW-UP-STUDIES.
 HOSPITAL-RESTRUCTURING: economics (ec). HOSPITALS-PSYCHIATRIC:
 economics (ec). HUMAN. LENGTH-OF-STAY: economics (ec). MALE.
 MANAGED-CARE-PROGRAMS: economics (ec). MENTAL-DISORDERS: economics
 (ec), psychology (px). *PATIENT-CARE-TEAM:* economics (ec),
 organization-and-administration (og). PSYCHOTIC-DISORDERS: economics
 (ec), psychology (px), therapy (th). *QUALITY-ASSURANCE-HEALTH-CARE:*

economics (ec). RECURRENCE. TREATMENT-OUTCOME. WASHINGTON.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930226.

123

AN 93146539. 93051.
AU Sederer-L-I. Eisen-S-V. Dill-D. Grob-M-C. Gougeon-M-L.
Mirin-S-M.
IN McLean Hospital, Belmont, MA 02178.
TI Case-based reimbursement for psychiatric hospital *care.*
SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1120-6.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A fixed-prepayment system (case-based reimbursement) for patients initially requiring hospital-level *care* was evaluated for one year through an arrangement between a private nonprofit psychiatric hospital and a self-insured company desiring to provide psychiatric services to its employees. This clinical and financial experiment offered a means of containing costs while monitoring quality of *care.* A two-group, case-control study was undertaken of treatment outcomes at discharge, patient satisfaction with hospital *care,* and service use and costs during the program's first year. Compared with costs for patients in the control group, costs for those in the program were lower per patient and per admission; cumulative costs for patients requiring rehospitalization were also lower. However, costs for outpatient services for patients in the program were not calculated. Treatment outcomes and patients' satisfaction with hospital *care* were comparable for the two groups. Author-abstract.
MJ HOSPITALS-PSYCHIATRIC: economics (ec). INSURANCE-PSYCHIATRIC: economics (ec). MENTAL-DISORDERS: rehabilitation (rh). REIMBURSEMENT-MECHANISMS: economics (ec).
MN ADOLESCENCE. ADULT. CONTRACT-SERVICES: economics (ec). FEMALE. HUMAN. LENGTH-OF-STAY: economics (ec). MALE. *MANAGED-CARE-PROGRAMS:* economics (ec). MASSACHUSETTS. MENTAL-DISORDERS: economics (ec), psychology (px). MIDDLE-AGE. PATIENT-READMISSION: economics (ec). PATIENT-SATISFACTION. TREATMENT-OUTCOME.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930226.

124

AN 93146534. 93051.
 AU Santiago-J-M.
 IN University of Arizona College of Medicine, Tucson 85724.
 TI The fate of mental health services in health *care* reform: II.
 Realistic solutions.
 SO Hosp-Community-Psychiatry. 1992 Nov. 43(11). P 1095-9.
 JT HOSPITAL AND COMMUNITY PSYCHIATRY.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB In the second part of a two-part paper, the three major proposals for U.S. health *care* reform--the government-sponsored model, the employment-based model, and the market reform model--are reviewed. Barriers to their success include the current economic crisis, the lack of a clear consensus, and the high costs of the proposals. Most proposals limit the extent of psychiatric coverage; some exclude such coverage from minimum benefit packages, an area of concern for clinicians. The author concludes that any substantial health *care* reform is unlikely in the near future. A thoughtful, realistic, and yet vigorous strategic plan is needed now to forestall the possible exclusion of significant mental health coverage. The basic elements of such a plan are reviewed. Author-abstract. 44 Refs.
 MJ HEALTH-POLICY: economics (ec). HEALTH-SERVICES-ACCESSIBILITY: economics (ec). MEDICALLY-UNINSURED. MENTAL-HEALTH-SERVICES: economics (ec).
 MN COST-CONTROL: trends (td). FORECASTING. *HEALTH-CARE-RATIONING:* economics (ec). HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). UNITED-STATES.
 SB Priority Journals (M).
 YR 1992.
 IS 0022-1597. GCJ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9305.
 ND ENTRY DATE: 930226.

125

AN 93143282. 93044.
 AU Girard-N.
 IN University of Texas Health Science Center School of Nursing, San Antonio.
 TI Nursing *care* delivery models. The perioperative environment.
 SO AORN-J. 1993 Feb. 57(2). P 481-8.
 JT AORN JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Changes in health *care* on the national level are affecting perioperative nursing drastically. Perioperative nursing needs innovative approaches to guide the delivery of nursing *care* for patients whose operative procedures are performed outside traditional institutions. *Managed* *care* and case management are gaining in importance as more surgical procedures are performed in the

outpatient arena. New minimally invasive techniques call for new models of delivering professional nursing *care.* Any model that is developed must ensure that professional perioperative nursing is rewarded, quality patient *care* provided, and surgical procedure expenses reimbursed. Author-abstract.

MJ MODELS-NURSING. NURSING-SERVICES: organization-and-administration (og). OPERATING-ROOM-NURSING: organization-and-administration (og).
MN HUMAN. NURSING-SERVICES: economics (ec). UNITED-STATES.
SB Priority Journals (M). Nursing Journals (N).
YR 1993.
IS 0001-2092. 6JR.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930224.

126

AN 93140571. 93044.
AU Bishop-B-E.
TI *Managed* *care:* what does it mean? `editorial:.
SO MCN-Am-J-Matern-Child-Nurs. 1993 Jan-Feb. 18(1). P 7.
JT MCN; AMERICAN JOURNAL OF MATERNAL CHILD NURSING.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MODELS-NURSING. NURSING-STAFF: standards (st).
QUALITY-OF-HEALTH-CARE.
MN HUMAN.
SB Nursing Journals (N).
YR 1993.
IS 0361-929X. MA3.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930225.

127

AN 93132647. 93043.
AU Hobbie-W-L. Hollen-P-J.
TI Pediatric nurse practitioners specializing with survivors of childhood cancer.
SO *J-Pediatr-Health-Care.* 1993 Jan-Feb. 7(1). P 24-30.
JT JOURNAL OF PEDIATRIC HEALTH *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The evolution of the role of the pediatric nurse practitioner in oncology specializing in the *care* of childhood cancer survivors is described, with certain aspects of the role solidified or expanded and new functions added. The early concept of the role included three interdependent functions: (a) clinician/caregiver, (b) educator, and (c) researcher. The functions of specialty *care* provider and educator remain strong; the role of researcher has been

expanded, and new role components, clinical/program manager and consultant, have been added. The central focus for the pediatric nurse practitioner in oncology is the survivor and family, which is extended to the clinic population and related groups by the blending of the pediatric nurse practitioner and clinical nurse specialist roles. Any role function on behalf of this clinical population should be assumed as necessary to provide comprehensive *care.*
Author-abstract.

MJ NEOPLASMS: nursing (nu). NURSE-PRACTITIONERS. ONCOLOGIC-NURSING. PEDIATRIC-NURSING.
MN CHILD. HUMAN. *MANAGED-CARE-PROGRAMS.* NEOPLASMS: mortality (mo). ROLE. SURVIVAL-RATE.
SB Nursing Journals (N).
LI N.
YR 1993.
IS 0891-5245. JML.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930218.

128

AN 93123091. 93042.
AU Brittian-O.
TI Community nurses' views on *care* management.
SO Health-Visit. 1992 Oct. 65(10). P 365-7.
JT HEALTH VISITOR.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. COMMUNITY-HEALTH-NURSING: methods (mt). JOB-DESCRIPTION. *MANAGED-CARE-PROGRAMS:* standards (st).
MN AGED. COMMUNITY-HEALTH-NURSING: standards (st). FRAIL-ELDERLY. HUMAN. QUESTIONNAIRES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0017-9140. G2P.
CP ENGLAND (Z1.542.363.300).
IM 9304.
ND ENTRY DATE: 930211.

129

AN 93123090. 93042.
AU Rodrigues-L.
TI A bright future for community nursing.
SO Health-Visit. 1992 Oct. 65(10). P 363-4.
JT HEALTH VISITOR.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Lisa Rodrigues argues that health visitors and community nurses have a world to gain from the current flux in community health services.

But they must actively seek out ways of working jointly with other agencies if they are not to be left on the sidelines.

Author-abstract.

MJ COMMUNITY-HEALTH-NURSING: trends (td). JOB-DESCRIPTION.
MANAGED-CARE-PROGRAMS: trends (td). *PATIENT-CARE-TEAM:* trends (td).
MN FORECASTING. HUMAN.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0017-9140. G2P.
CP ENGLAND (Z1.542.363.300).
IM 9304.
ND ENTRY DATE: 930211.

130

AN 93117068. 93041.
AU Shires-B. Tappan-T.
TI The clinical nurse specialist as brief psychotherapist.
SO *Perspect-Psychiatr-Care.* 1992 Oct-Dec. 28(4). P 15-8.
JT PERSPECTIVES IN PSYCHIATRIC *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB As *managed* *care* continues to flourish, the psychiatric clinical nurse specialist may function as a case manager for a *managed* *care* company or as a utilization review nurse for a hospital, community provider, or administrator. Stressing the strengths of the psychiatric clinical nurse specialist as brief therapist, the author reviews elements of the brief treatment model, including assessment, focus of treatment, knowledge of community resources, patient education, group skills, crisis intervention, and treatment planning.
Author-abstract.
MJ NURSE-CLINICIANS. PSYCHIATRIC-NURSING: methods (mt).
PSYCHOTHERAPY-BRIEF: methods (mt).
MN HUMAN. *MANAGED-CARE-PROGRAMS.* MODELS-NURSING.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0031-5990. OZT.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930204.

131

AN 93115683. 93041.
AU Caldwell-J-R.
TI Hazards for health. The American Hospital Association proposal for reform of American health *care* `editorial:.
SO J-Fla-Med-Assoc. 1992 Dec. 79(12). P 809-10.
JT JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION.
PT EDITORIAL (EDI).

LG English (EN).
 MJ AMERICAN-HOSPITAL-ASSOCIATION. *DELIVERY-OF-HEALTH-CARE.*
 HEALTH-POLICY.
 MN COST-SAVINGS. *DELIVERY-OF-HEALTH-CARE:* economics (ec),
 organization-and-administration *(og).HEALTH-CARE-COSTS.* HUMAN.
 MANAGED-CARE-PROGRAMS: economics (ec),
 organization-and-administration (og). UNITED-STATES.
 YR 1992.
 IS 0015-4148. I53.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9304.
 ND ENTRY DATE: 930201.

132

AN 93114858. 93041.
 AU Szilagyi-P-G. Roghmann-K-J. Foye-H-R. Parks-C. MacWhinney-J.
 Miller-R. Nazarian-L. McInerny-T. Klein-S.
 IN Pediatric Ambulatory Services, Strong Memorial Hospital, Rochester,
 NY 14642.
 TI Increased ambulatory utilization in IPA plans among children
 receiving hyposensitization therapy.
 SO Inquiry. 1992 Winter. 29(4). P 467-75.
 JT INQUIRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB There is concern that children with chronic conditions are less
 likely to be enrolled in *managed* *care* systems and that they may not
 receive optimal *care.* We studied the relationship between enrollment
 in an Independent Practice Association (IPA) plan and utilization of
 ambulatory services among children in a suburban pediatric practice
 with one mild chronic condition--those receiving hyposensitization
 therapy for allergic diseases. Ambulatory utilization by IPA
 patients (N = 102) was determined by medical chart review for one
 year before and one year after each patient switched from Blue Cross
 to IPA coverage. Blue Cross hyposensitization patients (N = 57)
 matched for age served as controls. Patients receiving
 hyposensitization were more likely to have enrolled in an IPA than
 those not receiving hyposensitization (70% vs 45%, $p < .001$). Before
 enrollment pre-IPA patients had 41% fewer well-child *care* (WCC)
 visits than Blue Cross patients ($p < .01$); both underutilized WCC
 visits according to established guidelines. Controlling for age and
 baseline utilization, we found a significant increase in WCC and
 acute *care* visits after IPA enrollment ($p < .05$), but no change in
 hyposensitization visits or referrals. In this setting, there was no
 evidence for reduced access to ambulatory services but rather
 evidence for improved utilization of primary *care.* Author-abstract.
 MJ *AMBULATORY-CARE:* utilization (ut). CHILD-HEALTH-SERVICES:
 utilization (ut). DESENSITIZATION-IMMUNOLOGIC. HYPERSENSITIVITY:
 therapy (th). INDEPENDENT-PRACTICE-ASSOCIATIONS: utilization (ut).
 PRIMARY-HEALTH-CARE: utilization (ut).

MN ADOLESCENCE. ADULT. AGE-FACTORS. *AMBULATORY-CARE:* economics (ec).
BLUE-CROSS. CHILD. CHILD-HEALTH-SERVICES: economics (ec).
CHILD-PRESCHOOL. CHRONIC-DISEASE. FEMALE.
HEALTH-SERVICES-RESEARCH. HUMAN. MALE. *MANAGED-CARE-PROGRAMS.*
NEW-YORK. *PRIMARY-HEALTH-CARE:* economics (ec).
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1992.
IS 0046-9580. GOT.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930202.
NO IF32HS0001801. GRANT: HS. INSTITUTE: AHCPR.

133

AN 93113227. 93041.
AU Coleman-R-L.
IN University of Connecticut, Farmington.
TI Promoting quality through *managed* *care*.
SO Am-J-Med-Qual. 1992 Winter. 7(4). P 100-5.
JT AMERICAN JOURNAL OF MEDICAL QUALITY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB *Managed* *care* organizations will be able to promote quality *care* as well as control costs by utilizing quality management approaches and practice guidelines. By so doing, organized systems of *care* could promote adherence to standards of quality and appropriateness. Focusing on systems of *care* is a major component of the quality improvement process and fits well with the development and utilization of practice guidelines. Practice guidelines, as well as risk management, quality assurance, and quality improvement techniques, can help reduce undesirable variation in practice patterns and prevent problems from occurring. Guidelines may be based on different levels of explicitness ranging from subjective judgment to specific outcomes and patient preferences. The use of guidelines and quality improvement mechanisms will enhance the effectiveness of clinical decision making and enable *managed* *care* organizations to work productively with physicians to promote quality. Author-abstract. 35 Refs.
MJ *MANAGED-CARE-PROGRAMS:* standards (st). PRACTICE-GUIDELINES.
QUALITY-ASSURANCE-HEALTH-CARE: standards (st).
MN HUMAN. *PATIENT-CARE-PLANNING:* standards (st).
YR 1992.
IS 1062-8606. BL2.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930201.

134

AN 93111139. 93035.

AU Rossler-W. Loffler-W. Fatkenheuer-B. Riecher-Rossler-A.
 IN Central Institute of Mental Health, Mannheim, Germany.
 TI Does case management reduce the rehospitalization rate?
 SO Acta-Psychiatr-Scand. 1992 Dec. 86(6). P 445-9.
 JT ACTA PSYCHIATRICA SCANDINAVICA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB It was expected from deinstitutionalization that outpatient *care* could replace hospital *care.* But many empirical studies proved that the number of admissions to psychiatric hospitals rose when community-based *care* developed. This might be due to the lack of coordination and cooperation of extramural services. The concept of case management therefore originated in the last few years. In this study the effect of case management on the rehospitalization rate is examined by analyzing the data of 4 social-psychiatric services responsible for defined catchment areas. During the evaluation period of 2.5 years, 162 patients dismissed from psychiatric hospitals were referred to those services. For each of these index patients a matched control patient was identified, each identical in diagnosis, sex, age, living conditions and number of previous inpatient episodes. The results of a survival analysis show that there are no significant effects of case management on the rate of rehospitalization nor on the length of time in hospital in case of a rehospitalization. Author-abstract.
 MJ LENGTH-OF-STAY: statistics-and-numerical-data (sn).
 MANAGED-CARE-PROGRAMS. MENTAL-DISORDERS: rehabilitation (rh).
 PATIENT-READMISSION: statistics-and-numerical-data (sn).
 MN ADULT. AGED. CHRONIC-DISEASE. COMMUNITY-MENTAL-HEALTH-SERVICES: utilization (ut). FEMALE. FOLLOW-UP-STUDIES. GERMANY. HUMAN. MALE. MENTAL-DISORDERS: psychology (px). MIDDLE-AGE. SUPPORT-NON-U-S-GOVT. SURVIVAL-ANALYSIS.
 SB Priority Journals (M).
 YR 1992.
 IS 0001-690X. 1VY.
 CP DENMARK (Z1.542.808.224).
 IM 9303.
 ND ENTRY DATE: 930127.

135

AN 93104906. 93035.
 AU Karls-J. Wandrei-K-E.
 TI The Person-In-Environment System for classifying client problems: A new tool for more effective case management.
 SO J-Case-Manag. 1992 Fall. 1(3). P 90-5.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB This article outlines the application of the Person-In-Environment system for the classification of problems which clients bring to case managers. The PIE system, sponsored by the National Association of Social Workers, Inc., concisely describes social role, environmental,

mental health, and physical health problems in a format that allows for a clear delineation of the appropriate targets for case management intervention. The article also illustrates the system's use with three case management vignettes involving child protective services, the chronically mentally ill, and older adults.

Author-abstract.

MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
PATIENTS: classification (cl). ROLE. SOCIAL-WORK: methods (mt).
MN ADULT. AGED. CASE-REPORT. ENVIRONMENT. FEMALE. HUMAN. MALE.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

136

AN 93104905. 93035.
AU Browdie-R.
TI Ethical issues in case management from a political and systems perspective.
SO J-Case-Manag. 1992 Fall. 1(3). P 87-9.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article has been excerpted from a talk which provided a description of the systemic context in which case management operates in relation to other services and provides an overview of the political context in which the system of services for older people operates. The ethical issues of case management, which are discussed elsewhere in this issue, are imposed in part by the role of case managers in the system as a whole, which in turn reflects our society's political consensus on how older persons will be served and at what cost. Author-abstract.
MJ ETHICS-MEDICAL. *LONG-TERM-CARE:* standards (st).
MANAGED-CARE-PROGRAMS: standards (st). POLITICS. SYSTEMS-ANALYSIS.
MN HUMAN. PENNSYLVANIA. POWER-PSYCHOLOGY.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

137

AN 93104904. 93035.
AU Dubler-N-N.
TI Individual advocacy as a governing principle.
SO J-Case-Manag. 1992 Fall. 1(3). P 82-6.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Many case managers have two roles, that of gatekeeper and that of advocate, that often conflict. A true advocate adopts the client's perspective as the guide for activity. Many advocacy models exist, notably those of physician/patient and lawyer/client. The client's rights to an informed choice and to strict confidentiality are fundamental to these advocacy models and must be incorporated into any advocacy model of case management. Author-abstract.

MJ *MANAGED-CARE-PROGRAMS:* standards (st). PATIENT-ADVOCACY. REFERRAL-AND-CONSULTATION.

MN COST-CONTROL. ETHICS-MEDICAL. HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). PHYSICIAN-PATIENT-RELATIONS. ROLE.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

138

AN 93104903. 93035.

AU Kane-R-A.

TI Case management in long-term *care:* it can be ethical and efficacious.

SO J-Case-Manag. 1992 Fall. 1(3). P 76-81.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The present-day concept of case management combines two opposing functions, advocacy and gatekeeping, which creates an ethical tension. To maintain a balance between these activities and thus avoid untenable ethical situations, *long-term-care* programs must at the very least have sufficient dollars to provide required services, those dollars must be committed to the program and not subject to allocation elsewhere, and the services must be distributed fairly among those who need them. Various case management models attempt to separate the advocacy and gatekeeping functions with varying degrees of success. Author-abstract.

MJ ETHICS-MEDICAL. *LONG-TERM-CARE:* standards (st). *MANAGED-CARE-PROGRAMS:* standards (st).

MN AGED. EFFICIENCY. HUMAN. SUPPORT-NON-U-S-GOVT.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

139

AN 93104902. 93035.
AU Wetle-T.
TI A taxonomy of ethical issues in case management of the frail older person.
SO J-Case-Manag. 1992 Fall. 1(3). P 71-5.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Present-day case managers find themselves facing a broad range of ethical issues and value conflicts. For managers of the frail older person, these issues may relate to (a) the client, (b) the client's family, (c) the manager's agency, (d) interdisciplinary interactions, (e) interagency dynamics, and (f) the entire service system. An eight-point strategy for conflict resolution can be effectively applied to these ethical conflicts. Author-abstract.
MJ ETHICS-MEDICAL. FRAIL-ELDERLY. *MANAGED-CARE-PROGRAMS:* standards (st).
MN AGED. CLASSIFICATION. HUMAN. SUPPORT-NON-U-S-GOVT.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

140

AN 93104901. 93035.
AU Quinn-J.
TI The ethics of case management `editorial:.
SO J-Case-Manag. 1992 Fall. 1(3). P 70.
PT EDITORIAL (EDI).
LG English (EN).
MJ ETHICS-MEDICAL. *MANAGED-CARE-PROGRAMS:* standards (st).
MN HUMAN. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

141

AN 93104900. 93035.
AU Austin-C-D.
TI Have we oversold case management as a "quick fix" for our *long-term-care* system?
SO J-Case-Manag. 1992 Summer. 1(2). P 61-5.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Case management has become a core component in almost every community-based, *long-term-care* program. Yet it is, at best, a piecemeal response to an enormous health and social services problem. Fragmented funding, ill-considered public health policy, and short-range planning assure that no single system, even one as ubiquitous as case management, will eliminate the serious problems plaguing our health *care* system. Author-abstract.

MJ *CONTINUITY-OF-PATIENT-CARE:* standards (st). *LONG-TERM-CARE:* standards (st). *MANAGED-CARE-PROGRAMS:* standards (st).

MN HUMAN. MODELS-ORGANIZATIONAL.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

142

AN 93104899. 93035.

AU Katz-K-S. Stowe-A-W.

TI A case management agency and bank create a service innovation.

SO J-Case-Manag. 1992 Summer. 1(2). P 57-60, 65.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Connecticut Community *Care,* Inc. (CCCI), a statewide, nonprofit case management agency, in collaboration with Connecticut National Bank (CNB), developed a unique model of delivering case management services to bank trust clients. No reports of such a collaborative model have been found in the published literature in the United States. The article presents a historical overview of this innovative initiative; the identification of the target population; the delivery of the assessment, coordination, and monitoring services; and the marketing techniques. Utilization statistics, a synopsis of the model outcomes as viewed by the trust officers, and suggestions for replication are also presented. Author-abstract.

MJ FINANCIAL-MANAGEMENT: organization-and-administration (og).
 FINANCING-PERSONAL: organization-and-administration (og).
 INTERINSTITUTIONAL-RELATIONS. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).

MN AGED. CONNECTICUT. HUMAN. MODELS-ORGANIZATIONAL.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

143

AN 93104898. 93035.
 AU Kaufman-J.
 TI Case management services for children with special health *care* needs.
 A family-centered approach.
 SO J-Case-Manag. 1992 Summer. 1(2). P 53-6.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The Coordinating Center for Home and Community *Care* (CCHCC) has developed a comprehensive, multidisciplinary case management model that facilitates the discharge of technology-assisted children from hospital to home. Coordination of the variety of services necessary for optimal medical, educational, and psychosocial development of the child and family is provided with an emphasis on cost containment. The hallmark of this program is its ability to locate, coordinate, and monitor the quality, continuity, provision, and cost of services at home. The CCHCC model was designed to enable children who would otherwise remain hospitalized at a substantial cost to third party payers to move home, providing a humane choice for families while requiring less costly *care* for funders. Author-abstract.
 MJ *HOME-CARE-SERVICES:* organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 PATIENT-DISCHARGE. TECHNOLOGY-MEDICAL.
 MN CHILD. COST-CONTROL. FAMILY. *HOME-CARE-SERVICES:* economics (ec).
 HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). MARYLAND.
 MODELS-ORGANIZATIONAL. *PATIENT-CARE-PLANNING.*
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 1061-3706. BN1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 930128.

144

AN 93104897. 93035.
 AU Finkel-S. Rogers-S.
 TI A clinical collaboration of a psychiatrist and a geriatric *care* manager.
 SO J-Case-Manag. 1992 Summer. 1(2). P 49-52, 65.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Older persons often need an integrated support system to enable them to remain in the community. This is particularly true for elderly patients with multidimensional disorders. This article describes an effective collaboration between a psychiatrist and geriatric *care* manager in treating six such patients. Author-abstract.
 MJ GERIATRIC-PSYCHIATRY: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 PATIENT-CARE-TEAM: organization-and-administration (og).
 MN AGED. AGED-80-AND-OVER. CASE-REPORT. FEMALE. HUMAN.

ORGANIZATIONAL-OBJECTIVES. *PATIENT-CARE-PLANNING.*

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

145

AN 93104896. 93035.

AU Riley-P-A. Fortinsky-R-H. Coburn-A-F.

TI Developing consumer-centered quality assurance strategies for home
care. A case management model.

SO J-Case-Manag. 1992 Summer. 1(2). P 39-48.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Despite a growing interest in home *care* quality assurance, models for effective quality assurance systems are in short supply. This article describes such a model, developed after a literature review; interviews with business leaders and with home *care* consumers and their families; and focus groups with consumers, case managers, and home health nurses. The Consumer-Centered, Negotiated Model for Home *Care* Quality integrates quality assurance into the case management process, focusing on the entire plan of *care,* not simply individual services. In this model, quality assurance is a regular and ongoing process, utilizing standards that are consumer-oriented, specific, and measurable. Author-abstract.

MJ CONSUMER-ADVOCACY. *HOME-CARE-SERVICES:*

organization-and-administration (og). *MANAGED-CARE-PROGRAMS:*

organization-and-administration (og). *QUALITY-ASSURANCE-HEALTH-CARE:*

organization-and-administration (og).

MN *HOME-CARE-SERVICES:* standards (st). HUMAN. MAINE.

MODELS-ORGANIZATIONAL. *PATIENT-CARE-PLANNING.* SUPPORT-NON-U-S-GOVT.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

146

AN 93104895. 93035.

AU Quinn-J.

TI Case management: as diverse as its clients `editorial:.

SO J-Case-Manag. 1992 Summer. 1(2). P 38.

PT EDITORIAL (EDI).

LG English (EN).

MJ HEALTH-SERVICES-NEEDS-AND-DEMAND. *MANAGED-CARE-PROGRAMS:* standards

(st).
MN HUMAN. *MANAGED-CARE-PROGRAMS:* classification (cl). NOMENCLATURE.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

147

AN 93104894. 93035.
AU Applebaum-R-A. McGinnis-R.
TI What price quality? Assuring the quality of *case-managed* in-home
care.
SO J-Case-Manag. 1992 Spring. 1(1). P 9-13.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Case *managed* community-based long-term *care* has now become an
established component of the service delivery system in the United
States. As case management has developed, it has gone through an
evolutionary process. In the initial phase of case management,
considerable attention was placed on gaining access to resources by
the case manager. This article addresses issues of assuring the
quality of *case-managed* *care.* It focuses on the current concerns and
potential problems associated with evaluating the effectiveness of
services arranged by case managers, and describes a model, developed
in Ohio, to ensure the quality of *care.* In addition, it discusses
the continued challenges for and costs of quality assurance and notes
the difficulty of obtaining empirical data in the effort to assure
quality. Author-abstract.
MJ *HOME-CARE-SERVICES:* standards (st). *MANAGED-CARE-PROGRAMS:* standards
(st). *PATIENT-CARE-PLANNING:* standards (st).
QUALITY-ASSURANCE-HEALTH-CARE: organization-and-administration (og).
MN COST-CONTROL. *HOME-CARE-SERVICES:* economics (ec). HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec). OHIO.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

148

AN 93104893. 93035.
AU Redford-L-J.
TI Case management. The wave of the future.
SO J-Case-Manag. 1992 Spring. 1(1). P 5-8.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Nurses and social workers are often placed in case management positions without an understanding of the basic philosophy or skills necessary for functioning effectively in this role. While the general components of the case management process are familiar to people from both professions, the specific procedures and goals of the process are quite different from those the participants learned during their basic educational preparation. This article explores the growing need for case management and offers a plan for effective training and skills necessary for the successful case manager. It describes the effects of case management on resource allocation, on the quality of its clients' lives, and on the systems within which it operates. It provides a clear overview of the important role that the case manager plays in sustaining the independence of older persons. Author-abstract.

MJ EDUCATION-NURSING-CONTINUING: organization-and-administration (og).
FRAIL-ELDERLY. *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og). *PATIENT-CARE-PLANNING.* ROLE.

MN AGED. CURRICULUM. HUMAN.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

149

AN 93104892. 93035.

AU Quinn-J.

TI Case management: a crucial part of our long term *care* system
`editorial:.

SO J-Case-Manag. 1992 Spring. 1(1). P 4.

PT EDITORIAL (EDI).

LG English (EN).

MJ HEALTH-SERVICES-ACCESSIBILITY: standards (st). *LONG-TERM-CARE:*
organization-and-administration *(og).MANAGED-CARE-PROGRAMS:*
organization-and-administration (og). *PATIENT-CARE-PLANNING.*

MN HUMAN.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1061-3706. BN1.

CP UNITED-STATES (Z1.107.567.875).

IM 9303.

ND ENTRY DATE: 930128.

150

AN 93104890. 93035.

AU Mahoney-K.

TI Case management lessons from a public/private partnership to finance long-term *care.*
 SO J-Case-Manag. 1992 Spring. 1(1). P 22-5, 35.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB In June of 1987, Connecticut's State Task Force on Private and Public Responsibilities for Financing Long-Term *Care* for the Elderly released its final report. This Governor's Commission, concluding that neither the private nor the public sector had much short-term hope of solving this difficult problem alone, recommended the creation of a public/private partnership. As this partnership was forged, some unique insights were gained into the functions of case management. This case study shows how case management can help coordinate the private and public roles, but it also raises some research questions which must be tackled before case management can fulfill its promise to help stretch and conserve scarce resources. Author-abstract.
 MJ FINANCING-GOVERNMENT: organization-and-administration (og).
 INTERINSTITUTIONAL-RELATIONS. *LONG-TERM-CARE:* economics (ec).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 PRIVATE-SECTOR: organization-and-administration (og).
 MN CONNECTICUT. HUMAN. MODELS-ORGANIZATIONAL.
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 1061-3706. BN1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 930128.

151

AN 93104889. 93035.
 AU Rounds-K. Weil-M. Thiel-K-S.
 TI Adolescent pregnancy and early intervention programs benefit from case management.
 SO J-Case-Manag. 1992 Spring. 1(1). P 14-20.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Case Management methods are being adapted to effectively serve two vulnerable populations: pregnant and parenting adolescents, and infants and toddlers with disabilities of developmental delay and their families. This article describes the case management model developed by California's Adolescent Family Life program and discusses issues related to providing family-centered, community-based case management in early intervention programs. Author-abstract.
 MJ ADOLESCENT-HEALTH-SERVICES: organization-and-administration (og).
 MANAGED-CARE-PROGRAMS: organization-and-administration (og).
 PATIENT-CARE-PLANNING. PREGNANCY-IN-ADOLESCENCE.
 MN ADOLESCENCE. CALIFORNIA. CHILD-DEVELOPMENT-DISORDERS: nursing (nu).

CHILD-PRESCHOOL. FEMALE. HUMAN. INFANT-NEWBORN.
MODELS-ORGANIZATIONAL. PREGNANCY.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1061-3706. BN1.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930128.

152

AN 93101174. 93034.
AU Kronick-R. Goodman-D-C. Wennberg-J. Wagner-E.
IN Department of Community and Family Medicine, University of
California-San Diego, La Jolla 92093.
TI The marketplace in health *care* reform. The demographic limitations
of *managed* competition.
SO N-Engl-J-Med. 1993 Jan 14. 328(2). P 148-52.
JT NEW ENGLAND JOURNAL OF MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND. The theory of *managed* competition holds that the quality
and economy of health *care* delivery will improve if independent
provider groups compete for consumers. In sparsely populated areas
where relatively few providers are required, however, it is not
feasible to divide the provider community into competing groups. We
examined the demographic features of health markets in the United
States to see what proportion of the population lives in areas that
might successfully support *managed* competition. METHODS. The ratios
of physicians to enrollees in large staff-model health maintenance
organizations were determined as an indicator of the staffing needs
of an efficient health plan. These ratios were used to estimate the
populations necessary to support health organizations with various
ranges of specialty services. Metropolitan areas with populations
large enough to support *managed* competition were identified.
RESULTS. We estimated that a health *care* services market with a
population of 1.2 million could support three fully independent
plans. A population of 360,000 could support three plans that
independently provided most acute *care* hospital services, but the
plans would need to share hospital facilities and contract for
tertiary services. A population of 180,000 could support three plans
that provided primary *care* and many basic specialty services but that
shared inpatient cardiology and urology services. Health markets
with populations greater than 180,000 would include 71 percent of the
U.S. population; those with populations greater than 360,000, 63
percent; and those with populations greater than 1.2 million, 42
percent. CONCLUSIONS. Reform of the U.S. health *care* system
through expansion of *managed* competition is feasible in medium-sized
or large metropolitan areas. Smaller metropolitan areas and rural
areas would require alternative forms of organization and regulation

of health *care* providers in order to improve quality and economy.
Author-abstract.

MJ CATCHMENT-AREA-HEALTH: statistics-and-numerical-data (sn).
COMPETITIVE-MEDICAL-PLANS: organization-and-administration (og).
HEALTH-POLICY: economics (ec). HEALTH-SERVICES-NEEDS-AND-DEMAND:
statistics-and-numerical-data (sn). *MANAGED-CARE-PROGRAMS:*
organization-and-administration (og).
MN ADOLESCENCE. ADULT. AGED. COMPETITIVE-MEDICAL-PLANS: economics
(ec), utilization (ut).ECONOMIC-COMPETITION:
organization-and-administration (og).
HEALTH-MAINTENANCE-ORGANIZATIONS: economics (ec).
HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn).
HUMAN. *MANAGED-CARE-PROGRAMS:* standards (st), utilization (ut).
MIDDLE-AGE. POPULATION-DENSITY. SUPPORT-U-S-GOVT-P-H-S.
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0028-4793. NOW.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930119.
NO HS0574505. GRANT: HS. INSTITUTE: AHCPR.

153

AN 93097242. 93033.
AU Richardson-M.
TI Can *managed* *care* control costs without controlling you?
SO Tex-Med. 1992 Oct. 88(10). P 36-44.
JT TEXAS MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. *MANAGED-CARE-PROGRAMS:* economics (ec).
PHYSICIANS-ROLE. *QUALITY-ASSURANCE-HEALTH-CARE:* economics (ec).
MN COST-CONTROL: trends (td). HUMAN. TEXAS.
YR 1992.
IS 0040-4470. VNA.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930112.

154

AN 93095155. 93033.
AU Butcher-R-O.
IN National Medical Association, Washington, DC 20001.
TI Health crisis in the minority community: prevention and management.
Inaugural address.
SO J-Natl-Med-Assoc. 1992 Nov. 84(11). P 921-2.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).

LG English (EN).
MJ BLACKS. HEALTH-SERVICES-NEEDS-AND-DEMAND. *MANAGED-CARE-PROGRAMS.*
MN HUMAN. UNITED-STATES.
YR 1992.
IS 0027-9684. J9Z.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930112.

155

AN 93092643. 93033.
AU Ronai-S-E. Hudner-H-K.
IN Health *Care* Department of the Hartford.
TI Physician negotiations with *managed* *care* plans: a primer of antitrust pitfalls.
SO Conn-Med. 1992 Oct. 56(10). P 571-6.
JT CONNECTICUT MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ANTITRUST-LAWS. ECONOMIC-COMPETITION: legislation-and-jurisprudence (lj). *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj). PHYSICIANS-ROLE.
MN HEALTH-MAINTENANCE-ORGANIZATIONS: legislation-and-jurisprudence (lj). HUMAN. UNITED-STATES.
YR 1992.
IS 0010-6178. DQF.
CP UNITED-STATES (Z1.107.567.875).
IM 9303.
ND ENTRY DATE: 930114.

156

AN 93092068. 93033.
TI Outcomes and the management of health *care.* Health Services Research Group.
SO Can-Med-Assoc-J. 1992 Dec 15. 147(12). P 1775-80.
JT CANADIAN MEDICAL ASSOCIATION JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ HEALTH-SERVICES-RESEARCH. *MANAGED-CARE-PROGRAMS.* *OUTCOME-ASSESSMENT-HEALTH-CARE.*
MN *AMBULATORY-CARE.* HUMAN.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0008-4409. CKW.
CP CANADA (Z1.107.567.176).
IM 9303.
ND ENTRY DATE: 930114.

157

AN 93085813. 93032.
 AU Power-E.
 IN Health Program, Office of Technology Assessment, US Congress,
 Washington, DC 20510.
 TI From the Congressional Office of Technology Assessment.
 SO JAMA. 1992 Dec 16. 268(23). P 3292.
 JT JAMA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ MEDICAID: legislation-and-jurisprudence (lj).
 MN COSTS-AND-COST-ANALYSIS. GOVERNMENT. *HEALTH-CARE-RATIONING.*
 HEALTH-SERVICES. HUMAN. *MANAGED-CARE-PROGRAMS.* MEDICAID: economics
 (ec). OREGON. POVERTY. TECHNOLOGY-ASSESSMENT-BIOMEDICAL.
 UNITED-STATES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1992.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 921231.

158

AN 93078971. 93031.
 TI Career scope--North East.
 SO Nurs-Manage. 1992 Nov. 23(11). P 86, 88, 90-7.
 JT NURSING MANAGEMENT.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ CAREER-MOBILITY. NURSING.
 MN COMMUNICATION. GROUP-PROCESSES. HUMAN. *MANAGED-CARE-PROGRAMS.*
 NEW-ENGLAND. NURSING-ASSESSMENT. OBSTETRICAL-NURSING.
 ORGANIZATIONAL-CULTURE. PATIENT-ADMISSION.
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 0744-6314. OBV.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 921224.

159

AN 93074225. 93021.
 AU Rapoport-J. Gehlbach-S. Lemeshow-S. Teres-D.
 IN Department of Economics, Mount Holyoke College, South Hadley, MA
 01075.
 TI Resource utilization among intensive *care* patients. *Managed* *care* vs
 traditional insurance.
 SO Arch-Intern-Med. 1992 Nov. 152(11). P 2207-12.
 JT ARCHIVES OF INTERNAL MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB BACKGROUND--There is considerable evidence that members of *managed*
care organizations use fewer hospital resources than patients covered
by traditional health insurance. While intensive *care* might seem to
be an unlikely setting for such differences to exist, the
relationship between health coverage and use of intensive *care* has
not been examined. METHODS--We conducted a cross-sectional analysis
of consecutive intensive *care* unit admissions at a regional tertiary
care teaching hospital. Patients in *managed* *care* plans (n = 159) and
with traditional insurance (n = 389) were compared with respect to
length of stay, hospital charges, charges for specific services, and
use of mechanical ventilation. The analysis controlled for severity
of illness, as measured by the Mortality Probability Model, case mix,
and mortality. The whole sample as well as subsamples representing
medical, emergency surgery, and elective surgery patients were
examined. RESULTS--The *managed* *care* group, on average, had short
stays (both hospital and intensive *care* unit), lower charges, and
less use of mechanical ventilation than the traditionally insured
group. Average differences of about 30% to 40% were observed. The
finding held for the whole sample as well as the medical and
emergency surgery subsamples. The differences were more pronounced
in the patients with lowest severity of illness. CONCLUSION--Even in
a setting where there would appear to be relatively little room for
discretion in treatment decisions, incentives associated with type of
health insurance seemed to affect resource use. Author-abstract.

MJ INSURANCE-HEALTH. *INTENSIVE-CARE-UNITS:* utilization (ut).
MANAGED-CARE-PROGRAMS.

MN COMPARATIVE-STUDY. COST-CONTROL. CROSS-SECTIONAL-STUDIES.
DIAGNOSIS-RELATED-GROUPS. FEES-MEDICAL:
statistics-and-numerical-data (sn). HEALTH-RESOURCES: utilization
(ut). HOSPITALS-TEACHING: economics (ec), utilization (ut). HUMAN.
INTENSIVE-CARE: economics (ec), utilization (ut).
INTENSIVE-CARE-UNITS: economics (ec). LENGTH-OF-STAY:
statistics-and-numerical-data (sn). MASSACHUSETTS. MIDDLE-AGE.
REGRESSION-ANALYSIS. RESPIRATION-ARTIFICIAL: utilization (ut).
SUPPORT-U-S-GOVT-P-H-S.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).

YR 1992.

IS 0003-9926. 7FS.

CP UNITED-STATES (Z1.107.567.875).

IM 9302.

ND ENTRY DATE: 921203.

NO HS06026. GRANT: HS. INSTITUTE: AHCPR.

160

AN 93065382. 93021.

AU Ford-R. Cooke-A. Repper-J.

TI Making a point of contact. Mental health.

SO Nurs-Times. 1992 Nov 4-10. 88(45). P 40-2.
 JT NURSING TIMES.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ COMMUNITY-MENTAL-HEALTH-SERVICES. MENTAL-DISORDERS: rehabilitation
 (rh). SOCIAL-WORK-PSYCHIATRIC.
 MN ADULT. CASE-REPORT. CHRONIC-DISEASE. ENGLAND. FEMALE. HUMAN.
 MALE. *MANAGED-CARE-PROGRAMS.*
 SB Nursing Journals (N).
 LI N.
 YR 1992.
 IS 0029-6589. 09U.
 CP ENGLAND (Z1.542.363.300).
 IM 9302.
 ND ENTRY DATE: 921217.

161

AN 93064314. 93021.
 AU Durgin-F-J.
 TI The role of third party payors in medical *care* `letter:.
 SO N-Y-State-J-Med. 1992 Oct. 92(10). P 449.
 JT NEW YORK STATE JOURNAL OF MEDICINE.
 PT LETTER (LET).
 LG English (EN).
 MJ INSURANCE-HEALTH-REIMBURSEMENT. *MANAGED-CARE-PROGRAMS.*
 MN HUMAN. *MANAGED-CARE-PROGRAMS:* statistics-and-numerical-data (sn).
 MENTAL-DISORDERS: therapy (th).
 YR 1992.
 IS 0028-7628. OBA.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9302.
 ND ENTRY DATE: 921217.

162

AN 93064224. 93021.
 AU Johnson-L-M.
 TI Structures, strategies, and synthesis: the nurse executive as social
 architect.
 SO Nurs-Adm-Q. 1992 Fall. 17(1). P 10-6.
 JT NURSING ADMINISTRATION QUARTERLY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ NURSE-ADMINISTRATORS. SOCIAL-CHANGE.
 MN ACADEMIC-MEDICAL-CENTERS: organization-and-administration (og).
 COLORADO. HUMAN. LEADERSHIP. *MANAGED-CARE-PROGRAMS.* *NURSING-CARE:*
 organization-and-administration (og). ORGANIZATIONAL-CULTURE.
 ORGANIZATIONAL-INNOVATION. POWER-PSYCHOLOGY.
 SB Nursing Journals (N).
 LI N.
 YR 1992.

IS 0363-9568. OAE.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921222.

163

AN 93063227. 93021.
AU Woodward-A.
IN Financing and Services Research Branch, National Institute on Drug Abuse, Rockville, MD 20857.
TI *Managed* *care* and case management of substance abuse treatment.
SO NIDA-Res-Monogr. 1992. 127. P 34-53.
JT NIDA RESEARCH MONOGRAPH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
LG English (EN).
AB *Managed* *care* has become an important subject for health service research and is used increasingly by health *care* payers to control health *care* use and costs. Health services research on *managed* *care* has relevance to the evaluation of case management of persons with substance abuse problems. Two issues in *managed* *care* that are particularly relevant to case management are the lack of explicit, widely accepted criteria for *managed* *care* and the lack of demonstrated cost savings attributable to *managed* *care.* Thorough, systematic evaluative research needs to be done before these issues are well understood. Author-abstract. 139 Refs.
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
PATIENT-CARE-PLANNING: organization-and-administration (og).
SUBSTANCE-ABUSE: therapy (th).
MN COST-SAVINGS. HEALTH-SERVICES-RESEARCH. HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec), standards (st).
SB Priority Journals (M).
YR 1992.
IS 1046-9516. NRM.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921221.

164

AN 93062119. 93021.
AU Kastner-T.
TI Prospects for health *care* reform `editorial:..
SO Ment-Retard. 1992 Oct. 30(5). P v-viii.
JT MENTAL RETARDATION.
PT EDITORIAL (EDI).
LG English (EN).
MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).
HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).
INSURANCE-HEALTH: legislation-and-jurisprudence (lj).
MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj). POLITICS.
MN FORECASTING. HUMAN. UNITED-STATES.

YR 1992.
IS 0047-6765. MTW.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921204.

165

AN 93053319. 93021.
AU Gessel-A-H.
TI *Managed* *care* in psychosomatic medicine: a tale of three patients
`editorial:.
SO Int-J-Psychosom. 1992. 39(1-4). P 3.
JT INTERNATIONAL JOURNAL OF PSYCHOSOMATICS.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* economics (ec). PSYCHOPHYSIOLOGIC-DISORDERS:
therapy (th). PSYCHOTHERAPY: economics (ec).
QUALITY-ASSURANCE-HEALTH-CARE: economics (ec). SOMATOFORM-DISORDERS:
therapy (th).
MN ADULT. CASE-REPORT. COST-CONTROL: trends (td). FEMALE. HUMAN.
MALE. *PATIENT-CARE-TEAM:* economics (ec).
PSYCHOPHYSIOLOGIC-DISORDERS: economics (ec), psychology (px).
REFERRAL-AND-CONSULTATION: economics (ec). SOMATOFORM-DISORDERS:
economics (ec), psychology (px).
YR 1992.
IS 0884-8297. GTC.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921217.

166

AN 93052137. 93021.
AU Glazer-W-M. Kramer-R. Montgomery-J-S. Myers-L.
IN Aetna Focussed Psychiatric Review Program, Yale University School of
Medicine, New Haven, CT 06519.
TI Medical necessity scales for inpatient psychiatric concurrent review.
SO Hosp-Community-Psychiatry. 1992 Sep. 43(9). P 935-7.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONCURRENT-REVIEW: economics (ec). HOSPITALS-PSYCHIATRIC:
utilization (ut). *MANAGED-CARE-PROGRAMS:* economics (ec).
MENTAL-DISORDERS: classification (cl).
MN AGGRESSION: psychology (px). COST-CONTROL. DANGEROUS-BEHAVIOR.
HUMAN. INSURANCE-CLAIM-REVIEW: economics (ec).
INSURANCE-PSYCHIATRIC: utilization (ut). MENTAL-DISORDERS: economics
(ec). *PATIENT-CARE-PLANNING:* economics (ec).
SEVERITY-OF-ILLNESS-INDEX. UNITED-STATES.
SB Priority Journals (M).
YR 1992.

IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921223.

167

AN 93052100. 93021.
AU Hood-L. Sharfstein-S-S.
IN Sheppard and Enoch Pratt Hospital, Baltimore, MD 21285.
TI *Managed* *care* for patients who are treatment resistant.
SO Hosp-Community-Psychiatry. 1992 Aug. 43(8). P 774-5.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ DEPRESSIVE-DISORDER: rehabilitation (rh). HOSPITALIZATION.
MANAGED-CARE-PROGRAMS.
MN ADULT. CASE-REPORT. COST-CONTROL. DEPRESSIVE-DISORDER: economics (ec), psychology (px).DISABILITY-EVALUATION. FEMALE.
HOSPITALIZATION: economics (ec). HUMAN. INSURANCE-CLAIM-REVIEW: economics (ec). INSURANCE-PSYCHIATRIC: economics (ec).
MANAGED-CARE-PROGRAMS: economics (ec). RECURRENCE.
REHABILITATION-VOCATIONAL: psychology (px). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921204.

168

AN 93036653. 93011.
AU Weil-T-P.
TI Universal access: its potential impact on emergency medicine
`editorial; comment:.
CM Comment on: Ann Emerg Med 1992 Oct;21(10):1240-2.
SO Ann-Emerg-Med. 1992 Oct. 21(10). P 1236-40.
JT ANNALS OF EMERGENCY MEDICINE.
PT EDITORIAL (EDI).
LG English (EN).
AB The nation's current economic conditions, the first time in 60 years that a recession has adversely affected the middle class, might well be the actual trigger mechanism in the passage of a US universal access plan. When enacted, it would provide emergency medicine and other basic physician and hospital benefits to the currently uninsured patients now seen in hospital EDs, in doctors' offices, and as inpatients. It will, thereby, enhance current physician-patient relationships and enable many of the working poor and their dependents to receive medical *care.* Conventional wisdom suggests that such a social insurance plan could significantly reduce the number of routine visits to hospital EDs, assuming that additional,

accessible, and high-quality alternative *primary-care* services are developed. In any case, a universal access plan should improve the percentage of billed charges collected by emergency physicians. The nation's 1,500 third-party payers, with their *managed* *care* strategy, will have difficulty (for the reasons outlined) in micromanaging such external pressures as ensuring high-quality patient *care,* more benefits (including tertiary services), and less cost to the private and public sectors. As there is more micromanaging by third-party payers to reduce expenditures, it will be increasingly difficult for emergency physicians to find specialists willing to accept previously uninsured patients, except at public or teaching environments where the delivery of services to uncompensated patients has been the pattern for several decades.(ABSTRACT TRUNCATED AT 250 WORDS).

Author-abstract.

MJ EMERGENCY-MEDICINE. HEALTH-SERVICES-ACCESSIBILITY.
NATIONAL-HEALTH-INSURANCE-UNITED-STATES.

MN EMERGENCY-MEDICINE: economics (ec). HEALTH-SERVICES-ACCESSIBILITY:
economics (ec). HUMAN. NATIONAL-HEALTH-INSURANCE-UNITED-STATES:
economics (ec). ORGANIZATION-AND-ADMINISTRATION.
REIMBURSEMENT-MECHANISMS. UNITED-STATES.

SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.

IS 0196-0644. 4Z7.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921106.

169

AN 93027083. 93011.

AU Connors-H-R.

TI Case management: within and beyond the walls.

SO NLN-Publ. 1992 Jul. (41-2472). P 113-20.

JT NLN PUBLICATIONS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Results of this study demonstrated no significant differences in the frequency of the instrumental use of case management skills between nurses who graduated from the NAMFE program (NAMFE group) and those who were about to enter the program (comparison group); however, there was a significant difference ($p < .0001$ level) in the perceived preparation for performance of these skills between the two groups. Currently, few educational programs provide nurses with the essential knowledge and skills to function in the role of case manager; yet, the job market demands it of them. The program was able to fill the gap between education and service. Although the NAMFE course no longer is available for continuing education credit through the University of Kansas School of Nursing, the course currently is offered as an elective for senior level students and graduate students. Also, the curriculum materials and teaching strategies manuals, developed as part of this grant, and consultations regarding

the use of these materials are available. Author-abstract.
MJ GERIATRIC-NURSING. HEALTH-SERVICES-FOR-THE-AGED:
organization-and-administration (og). *MANAGED-CARE-PROGRAMS.*
MN AGED. EDUCATION-NURSING-CONTINUING. FRAIL-ELDERLY.
GERIATRIC-ASSESSMENT. GERIATRIC-NURSING: education (ed). HUMAN.
KANSAS. NURSING-ASSESSMENT. PROGRAM-EVALUATION.
SUPPORT-U-S-GOVT-NON-P-H-S.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 03Z.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921125.

170

AN 93024185. 93011.
AU Shaw-D-A. Hoban-T-W.
IN Hennepin County Medical Society.
TI Twin cities health *care* mergers, acquisitions, and affiliations.
Implications for independent physician practices.
SO Minn-Med. 1992 Sep. 75(9). P 24-31.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB "The health *care* system in Minnesota, especially in the Twin Cities
area, is currently undergoing change that can best be characterized
as a consolidation of providers into larger and larger groups
(multispecialty clinics, hospital/physician mergers, and expanded
HMOs and PPOs). These changes are intended to produce economies of
scale, less duplication of services, and better control of costs and
quality of health *care.* Where does this leave the more traditional,
smaller multispecialty or single-specialty practices often referred
to as 'independents'?. How can independent groups respond to these
trends in order to survive in the new health *care* marketplace?".
Author-abstract.
MJ HEALTH-FACILITY-MERGER: trends (td). ORGANIZATIONAL-AFFILIATION:
trends (td). PHYSICIANS-ROLE. PRIVATE-PRACTICE: trends (td).
MN HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td). MINNESOTA.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921029.

171

AN 93024183. 93011.
AU Yawn-B-P. Yawn-R-A.
TI Health *care* reform in Minnesota. Implications for the rural
physician.

SO Minn-Med. 1992 Sep. 75(9). P 11-4.

JT MINNESOTA MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Minnesota's health *care* reform plan (by any name) is a cost-containment bill with provisions to provide health insurance for some uninsured people, to examine quality of *care,* to increase support for rural provider education and migration to rural practice, and to develop state and regional health planning procedures. It is an ambitious bill with very tight time frames, vague language, and heavy reliance on regional commissions and volunteer groups that are just now being established. Will it have an impact on rural health *care?*

Undoubtedly, it will. But somewhere between what the bill says and the desired outcome is a void that physicians can help fill with constructive work and criticism. If physicians do not take the lead, someone else will fill that void--nonphysician providers, legislators, bureaucrats, or consumers. Or the structure could implode, taking all of us with it. Author-abstract.

MJ *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj).

MEDICALLY-UNDERSERVED-AREA. *PRIMARY-HEALTH-CARE:*

legislation-and-jurisprudence (lj). RURAL-HEALTH.

MN COST-BENEFIT-ANALYSIS: legislation-and-jurisprudence (lj). HUMAN.

MANAGED-CARE-PROGRAMS: economics (ec). MINNESOTA.

PRIMARY-HEALTH-CARE: economics (ec).

YR 1992.

IS 0026-556X. NBY.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921029.

172

AN 93024178. 93011.

AU Stolee-T-A.

TI Physicians should manage the *care* they provide.

SO Minn-Med. 1992 Aug. 75(8). P 37.

JT MINNESOTA MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *HEALTH-CARE-COSTS:* legislation-and-jurisprudence (lj).

HEALTH-SERVICES-ACCESSIBILITY: legislation-and-jurisprudence (lj).

MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj).

MEDICALLY-UNINSURED: legislation-and-jurisprudence (lj).

MN COST-CONTROL: legislation-and-jurisprudence (lj). HUMAN.

MINNESOTA.

YR 1992.

IS 0026-556X. NBY.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921104.

173

AN 93021216. 93011.
AU Butcher-R-O.
IN National Medical Association, San Diego, California.
TI The African-American physician and community interaction.
SO J-Natl-Med-Assoc. 1992 Sep. 84(9). P 745-7.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ BLACKS. COMMUNITY-INSTITUTIONAL-RELATIONS. *MANAGED-CARE-PROGRAMS.*
PHYSICIANS.
MN HUMAN. PHYSICIANS-ROLE. UNITED-STATES.
YR 1992.
IS 0027-9684. J9Z.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921120.

174

AN 93018209. 93011.
AU Marr-J-A. Reid-B.
IN Toronto Hospital, Ontario, Canada.
TI Implementing *managed* *care* and case management: the neuroscience experience.
SO J-Neurosci-Nurs. 1992 Oct. 24(5). P 281-5.
JT JOURNAL OF NEUROSCIENCE NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The case management model for patient *care* in the neuroscience area was recently implemented in the neurosciences area at a tertiary *care* hospital. Understanding of the concepts of case management and *managed* *care* were essential to the implementation process. Clustering of case types and appointment of group leaders made the development of individual *care* maps a manageable task. Case management of 2 case types, Parkinson's disease and Guillain Barre syndrome are described, including the rationale for selection, *care* map development and education. The process of continuing education focused on operational issues regarding utilization of the map and professional issues such as health teaching responsibilities. Author-abstract.
MJ HEALTH-PLAN-IMPLEMENTATION: trends (td). *MANAGED-CARE-PROGRAMS:* trends (td). NEUROSCIENCES: trends (td). NURSING-TEAM: trends (td). *PATIENT-CARE-TEAM:* trends (td).
MN COST-CONTROL: trends (td). HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec). NEUROSCIENCES: economics (ec). NURSING-TEAM: economics (ec). *PATIENT-CARE-TEAM:* economics (ec). UNITED-STATES.
SB Priority Journals (M). Nursing Journals (N).
YR 1992.
IS 0888-0395. IJ6.
CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921120.

175

AN 93017589. 93011.

AU Kramer-A-M. Fox-P-D. Morgenstern-N.

IN Center for Health Services Research, University of Colorado Health Sciences Center, Denver.

TI Geriatric *care* approaches in health maintenance organizations.

SO J-Am-Geriatr-Soc. 1992 Oct. 40(10). P 1055-67.

JT JOURNAL OF THE AMERICAN GERIATRICS SOCIETY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The objective of this project was to describe geriatric *care* provided under Medicare-risk contracts in HMOs with established Medicare programs. These findings provided the basis for an invitational workshop, sponsored by the National Institute on Aging and the Robert Wood Johnson Foundation, to formulate a research agenda for geriatric *care* in HMOs. The case study method involved site visits to seven HMOs by a physician with expertise in geriatrics, a *managed* *care* specialist, and a program development specialist. Representatives from the HMOs included senior executive officials, physicians recognized for providing and promoting geriatric *care,* research and program development staff, and various clinical staff including pharmacists, geriatric nurse practitioners, nurses, and social workers. The most frequently encountered geriatric *care* programs were categorized by the following six objectives: (1) identifying high risk patients, (2) assessing multi-problem patients, (3) treating multi-problem patients, (4) rehabilitating patients following acute events, (5) reducing medication problems, and (6) providing long-term *care* and home health *care.* Unique programs identified from these site visits included screening methods for new enrollees, approaches to comprehensive geriatric assessment, use of skilled nursing facilities for intensive rehabilitation and postacute *care,* and drug profiling and review. Utilization of geriatric nurse specialists and programs aimed at coordination with social services were pervasive in many of these HMOs. Workshop participants proposed several research and demonstration projects in all six areas. Overall consensus emerged that HMOs with Medicare-risk contracts provide a valuable setting for experimentation in geriatric *care.* Given the current health policy emphasis on *managed* *care* and capitated payment methodologies, geriatric *care* research in HMOs should be a high priority. Author-abstract.

MJ GERIATRICS: standards (st). HEALTH-MAINTENANCE-ORGANIZATIONS: standards (st). MEDICARE: standards (st). *PATIENT-CARE-TEAM:* standards (st).

MN GERIATRIC-ASSESSMENT. GERIATRICS: organization-and-administration (og). HEALTH-MAINTENANCE-ORGANIZATIONS: organization-and-administration (og). HEALTH-PRIORITIES. HEALTH-SERVICES-RESEARCH. HUMAN. MASS-SCREENING:

organization-and-administration (og), standards (st). MEDICARE:
organization-and-administration (og). ORGANIZATIONAL-OBJECTIVES.
PATIENT-CARE-TEAM: organization-and-administration (og).
PROGRAM-EVALUATION. REFERRAL-AND-CONSULTATION:
organization-and-administration (og), standards (st).
REHABILITATION: organization-and-administration (og), standards (st).
RESEARCH: standards (st). SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0002-8614. H6V.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921106.

176

AN 93017358. 93011.

AU Shugars-D-A. Bader-J-D. ONeil-E-H.

IN University of North Carolina School of Dentistry, Chapel Hill
27599-7450.

TI Attitudes of dentists toward emerging competencies for health *care*
practitioners.

SO J-Dent-Educ. 1992 Sep. 56(9). P 640-5.

JT JOURNAL OF DENTAL EDUCATION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Dentists' attitudes about the importance of formal training in a
variety of skills were assessed as a part of the Pew Health
Professions Commission initiative to help health professional schools
prepare for the future. Through a telephone survey with a 54 percent
participation rate, attitudes of a national sample of practitioners
were determined concerning the importance of training in 16
competencies that reflect skills, attitudes, and behaviors identified
by the commission. Most respondents indicated that competency in
treating and preventing disease, practicing ethically, communicating
with patients, applying problem solving techniques, and continuing to
learn were very important. Conversely, less than half of dentists
indicated that competency in managing information, responding to
cultural diversity, supporting community agencies, and working in
managed *care* settings were very important. The opinions of graduates
since 1980 about their own training in the competencies tended to
mirror their ratings of importance. These results demonstrate the
continuing need for dental educators to consider prevailing opinion
of practicing professionals as a part of any evaluation or planning
effort. Author-abstract.

MJ ATTITUDE-OF-HEALTH-PERSONNEL. DENTISTS: psychology (px).

EDUCATION-DENTAL: standards (st). PROFESSIONAL-COMPETENCE: standards
(st).

MN ADULT. ANALYSIS-OF-VARIANCE. CHI-SQUARE-DISTRIBUTION. DENTISTRY:
trends (td). HUMAN. INTERVIEWS. SUPPORT-NON-U-S-GOVT. TELEPHONE.

UNITED-STATES.

SB Priority Journals (M). Dental Journals (D).
YR 1992.
IS 0022-0337. HY7.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921109.

177

AN 93014926. 93011.
AU OBrien-R-J.
TI HCMR interview: Robert J. O'Brien `interview by Montague Brown:.
SO *Health-Care-Manage-Rev.* 1992 Summer. 17(3). P 89-96.
JT HEALTH *CARE* MANAGEMENT REVIEW.
PT INTERVIEW (INT).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE:* trends (td). HOSPITAL-ADMINISTRATION:
trends (td).
MN *DELIVERY-OF-HEALTH-CARE:* economics (ec). HEALTH-POLICY: trends (td).
HUMAN. KANSAS. *MANAGED-CARE-PROGRAMS:* trends (td). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0361-6274. G11.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921104.

178

AN 93013462. 93011.
AU Frank-R-G. Goldman-H-H. McGuire-T-G.
TI A model mental health benefit in private health insurance.
SO Health-Aff (Millwood). 1992 Fall. 11(3). P 98-117.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COST-SHARING. INSURANCE-PSYCHIATRIC: economics (ec).
MENTAL-HEALTH-SERVICES: economics (ec). MODELS-ECONOMETRIC.
MN COST-CONTROL. *HEALTH-CARE-COSTS.* HEALTH-SERVICES-NEEDS-AND-DEMAND:
economics (ec). HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec).
SUPPORT-U-S-GOVT-P-H-S.
YR 1992.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921123.
NO MH43703. GRANT: MH. INSTITUTE: NIMH. 1K05MH0083202. GRANT: MH.
INSTITUTE: NIMH.

179

AN 93013448. 93011.

AU Dickey-B. Azeni-H.
 IN Harvard Medical School Department of Psychiatry, Boston.
 TI Impact of *managed* *care* on mental health services.
 SO Health-Aff (Millwood). 1992 Fall. 11(3). P 197-204.
 JT HEALTH AFFAIRS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ CONCURRENT-REVIEW: standards (st). *MANAGED-CARE-PROGRAMS:* standards (st). MENTAL-HEALTH-SERVICES: standards (st).
 QUALITY-OF-HEALTH-CARE.
 MN ADOLESCENCE. ADULT. AGED. CHILD. CHILD-PRESCHOOL.
 COMPARATIVE-STUDY. COST-CONTROL. FEMALE. HEALTH-SERVICES-RESEARCH.
 HUMAN. INFANT. LENGTH-OF-STAY: statistics-and-numerical-data (sn).
 MALE. *MANAGED-CARE-PROGRAMS:* economics (ec).
 MENTAL-HEALTH-SERVICES: economics (ec), utilization (ut). MIDDLE-AGE. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
 YR 1992.
 IS 0278-2715. GAG.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9301.
 ND ENTRY DATE: 921123.
 NO R01MH4508901A1. GRANT: MH. INSTITUTE: NIMH.

180

AN 93003428. 93011.
 AU McMahon-L-F Jr. Petroni-G-R. Tedeschi-P-J. McLaughlin-C-G.
 TI Changing patterns of hospital use for patients with musculoskeletal disease in Michigan, 1980 to 1987.
 SO *Arthritis-Care-Res.* 1992 Jun. 5(2). P 111-5.
 JT ARTHRITIS *CARE* AND RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Over the past 10 years there have been dramatic changes in health *care* financing in the United States, such as Medicare's Prospective Payment System for hospitalized Medicare beneficiaries, and in health services delivery, such as the growth in health maintenance organizations and other forms of *managed* *care.* These changes have occurred largely in response to payors' concerns about the rising cost of health *care.* A study of such changes in financing and delivery, and how specific groups of patients are affected is necessary so that the effects of these changes on patients' health can be determined. We examined the hospitalization rates for patients with musculoskeletal diseases in Michigan from 1980 through 1987. During this period, the overall age-adjusted hospitalization rates decreased 7.0% per year ($p = 0.001$). The decrease occurred less for surgical discharges (6.0% per year) than for medical discharges (8.6% per year) ($p < 0.001$). While these overall trends are of interest, they obscure disease-specific trends that vary significantly from both the overall, and the medical and surgical trends. For example, while surgical discharges, in general declined,

procedures related to major joint and limb reattachment (DRG #209) increased at a rate of 6.3% per year. And while medical discharges in general decreased over this period, discharges for osteomyelitis increased 5.4% per year. The patterns of disease-specific trends offers insight into the possible causes for these changes. Finally, it is important to understand the epidemiology of hospital use to evaluate the effects of new medical *care* delivery and payment systems on the *care* of subsets of patients. Author-abstract.

MJ MUSCULOSKELETAL-DISEASES: epidemiology (ep). PATIENT-DISCHARGE: statistics-and-numerical-data(sn).
MN AGE-FACTORS. DIAGNOSIS-RELATED-GROUPS. HEALTH-SERVICES-RESEARCH. HUMAN. MICHIGAN: epidemiology (ep). PATIENT-DISCHARGE: trends (td). SUPPORT-U-S-GOVT-P-H-S.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0893-7524. A1B.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921029.
NO UMMAC5P60AR20557. GRANT: AR. INSTITUTE: NIAMS.

181

AN 92409161. 92000.
AU Gordon-M-L.
TI Case management: professional excellence and quality *care.*
SO Ohio-Nurses-Rev. 1992 Apr-May. 67(3). P 10.
JT OHIO NURSES REVIEW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NURSING-CARE.
MN HUMAN. NURSE-ADMINISTRATORS.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0030-0993. OGM.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921016.

182

AN 92406171. 92000.
AU Rubin-A.
TI Author clarifies review `letter:.
SO Health-Soc-Work. 1992 Aug. 17(3). P 238.
JT HEALTH AND SOCIAL WORK.
PT LETTER (LET).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* standards (st).

MN HUMAN.
SB Priority Journals (M).
YR 1992.
IS 0360-7283. FZ6.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921020.

183

AN 92390769. 92000.
AU Hunter-D-J.
IN Nuffield Institute for Health Services Studies, University of Leeds,
U.K.
TI Doctors as managers: poachers turned gamekeepers?
SO Soc-Sci-Med. 1992 Aug. 35(4). P 557-66.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Doctors in health *care* systems of different types are coming under increasing pressure to take on active roles in management. Mounting concern among governments over the escalating costs of health *care,* coupled with a desire to improve the quality of *care* and render services more responsive to user preferences has resulted in management being viewed as offering an effective means of tackling these issues. Until recently, the favoured strategy was to strengthen management in order to curb doctors' discretionary decision-making. There is now a shift towards creating managers out of doctors with all that this implies for the future shape of health services. There are also issues about the training and development required for a management role, the stratification of roles within the medical profession, and the future status of lay, or non-medical managers. The paper reviews the debate about doctors and managers and their distinctive value bases. It suggests that doctors can be involved in management as managers at two levels--meso and micro--and considers the issues raised at each level. The paper presents an analysis of the wider context in which the debate about doctors as managers is taking place. The main thesis put forward is that far from managers incorporating doctors, the end result may prove to be the other way round with 'provider capture' of the management agenda in health services a distinct possibility. In contrast to managers, doctors retain enormous public respect and support. As long as it is so doctors will remain powerful stakeholders in defining and controlling the shape and range of health services available. Their active involvement in management could lead to a strengthening of their position. It is argued that, paradoxically, this could make it more difficult for governments to challenge doctors' work practices. Medicine's traditional preoccupations and its resilience to change are likely to remain as strong as ever thereby disappointing advocates of a health and social *care* system located in a broader policy framework which emphasises health gain and a holistic approach

to health. Author-abstract. 37 Refs.
 MJ CROSS-CULTURAL-COMPARISON. HEALTH-POLICY: trends (td).
 HEALTH-RESOURCES: trends (td). *MANAGED-CARE-PROGRAMS:* trends (td).
 PHYSICIANS-ROLE.
 MN ATTITUDE-OF-HEALTH-PERSONNEL. COST-CONTROL: trends (td). HUMAN.
 SB Priority Journals (M).
 YR 1992.
 IS 0277-9536. UT9.
 CP ENGLAND (Z1.542.363.300).
 IM 9212.
 ND ENTRY DATE: 921008.

184

AN 92390768. 92000.
 AU Duran-Arenas-L. Asfura-M-B. Mora-J-F.
 IN School of Public Health, Mexico.
 TI The role of doctors as health *care* managers: an international
 perspective.
 SO Soc-Sci-Med. 1992 Aug. 35(4). P 549-55.
 JT SOCIAL SCIENCE AND MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB The participation of physicians in health *care* management has
 followed different paths in developed and developing countries.
 However, we can say that in most of the countries the physicians have
 had cyclical patterns of participation and withdrawal from health
 care management. It is readily apparent that these patterns are
 different in each country. We propose to take into account three
 different levels of analysis in which different factors interact to
 define the country specific pattern of physician involvement in
 health *care* management, as well as to assess the international
 convergence and divergence paths on physician participation. We
 present here a conceptual framework that could facilitate the
 analysis of this theme under a comparative perspective. We start by
 discussing a conceptual framework of the determinants of physician
 participation in health *care* management. Then, we assess the current
 trends and perspectives in both developed and Latin American
 countries of physician participation in health *care* management.
 Author-abstract. 34 Refs.
 MJ CROSS-CULTURAL-COMPARISON. DEVELOPING-COUNTRIES.
 PHYSICIANS-ROLE.
 MN COMPARATIVE-STUDY. FORECASTING. HEALTH-SERVICES-NEEDS-AND-DEMAND:
 trends (td). HUMAN. LATIN-AMERICA. *MANAGED-CARE-PROGRAMS:* trends
 (td).
 SB Priority Journals (M).
 YR 1992.
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AN 92382650. 92000.
AU Crist-T.
TI Half-empty or half-full?: two responses to "elegy" `letter:.
SO N-C-Med-J. 1992 Aug. 53(8). P 391.
JT NORTH CAROLINA MEDICAL JOURNAL.
PT LETTER (LET).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. CAREER-CHOICE. *MANAGED-CARE-PROGRAMS:*
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QUALITY-ASSURANCE-HEALTH-CARE: trends (td).
MN HUMAN. UNITED-STATES.
YR 1992.
IS 0029-2559. NTX.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921001.

186

AN 92380524. 92000.
AU Butler-R-N.
TI Healthcare reform: a scorecard `editorial:.
SO Geriatrics. 1992 Sep. 47(9). P 11-3.
JT GERIATRICS.
PT EDITORIAL (EDI).
LG English (EN).
MJ *DELIVERY-OF-HEALTH-CARE.* HEALTH-POLICY.
MN HUMAN. *MANAGED-CARE-PROGRAMS.*
NATIONAL-HEALTH-INSURANCE-UNITED-STATES. POLITICS. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0016-867X. F01.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
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AN 92377343. 92000.
AU Adams-T-L.
TI The search for our future.
SO Wis-Med-J. 1992 Jul. 91(7). P 443-5.
JT WISCONSIN MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ ATTITUDE-OF-HEALTH-PERSONNEL. *HEALTH-CARE-COSTS:* trends (td).
INSURANCE-BENEFITS: trends (td). *MANAGED-CARE-PROGRAMS:* trends (td).
PHYSICIANS-ROLE.
MN FORECASTING. HUMAN. WISCONSIN.
YR 1992.

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CP UNITED-STATES (Z1.107.567.875).
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188

AN 92375203. 92000.
AU Hicks-L. Stallmeyer-J-M. Coleman-J-R.
TI Nursing challenges in *managed* *care*.
SO Nurs-Econ. 1992 Jul-Aug. 10(4). P 265-76.
JT NURSING ECONOMICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The emergence of *managed* *care* organizations offers many opportunities, challenges, and threats for nursing and nurses. The goal of these organizations (ensuring maximum value from resources used) is congruent with the basic philosophy of nursing, which focuses on the total needs of the patient, not just disease, and on maintaining the health of the individual to minimize the need for expensive health *care* services. Within the structure of *managed* *care,* however, there is also a need for strong professional advocacy to ensure that the needs of the members are adequately met as the organization strives to maintain costs. In meeting the needs of the organization and of the members, the nurse also plays an important role in managing the resources used in producing health *care* services. Author-abstract.
MJ JOB-DESCRIPTION. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NURSING-STAFF: standards (st).
MN *CONTINUITY-OF-PATIENT-CARE.* HUMAN. PATIENT-ADVOCACY. PATIENT-EDUCATION. *QUALITY-ASSURANCE-HEALTH-CARE.* RISK-MANAGEMENT. TRIAGE.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0746-1739. NUE.
CP UNITED-STATES (Z1.107.567.875).
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189

AN 92373782. 92000.
AU Scott-D-L.
IN Wayne County Patient *Care* Management System, Detroit, Michigan.
TI Healthchoice: a *managed* *health-care* program for low-income uninsured workers.
SO J-Natl-Med-Assoc. 1992 Apr. 84(4). P 309-12.
JT JOURNAL OF THE NATIONAL MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The period in which we practice medicine is unprecedented in terms of

the enormous changes that are taking place within the profession. Perhaps foremost among the changes is the manner in which the practice of medicine is organized. Historically, over the last 30 years we have witnessed the transition of substantial proportions of physicians as solo practitioners to professionals employed in one form or another by institutional management *care* systems. Further, from all indications, this change is continuing unabatedly. There are now more than 600 health maintenance organizations (HMOs), and their enrollment rates have been steadily increasing. More than 60 million Americans or about 30% of the insured population receive their medical *care* through HMOs and preferred provider organizations (PPOs). Moreover, it is estimated that in the year 2000, 90% of all Americans will be receiving their medical *care* from *managed* *care* systems. Clearly, the driving force behind these changes is the desire of third-party payers and the public at large to control *health-care* costs. We, of course, share this goal and are committed to working with the public and private sectors to accomplish this aim. Deborah L. Scott, director of the Wayne County Patient *Care* Management Systems, writes about HealthChoice, a model *managed-care* program in Detroit, Michigan. Ms Scott's article is being published in lieu of the President's Column. Author-abstract.

MJ *MANAGED-CARE-PROGRAMS.* MEDICALLY-UNINSURED. POVERTY.

MN FEMALE. HUMAN. MALE. MICHIGAN.

YR 1992.

IS 0027-9684. J9Z.

CP UNITED-STATES (Z1.107.567.875).

IM 9211.

ND ENTRY DATE: 920922.

190

AN 92367785. 92000.

AU Sederer-L-I.

IN McLean Hospital, Belmont, MA 02178-9106.

TI Judicial and legislative responses to cost containment.

SO Am-J-Psychiatry. 1992 Sep. 149(9). P 1157-61.

JT AMERICAN JOURNAL OF PSYCHIATRY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB Cost containment through reduction of insurance benefits and aggressive utilization review is increasingly risking the sacrifice of good clinical *care* in the pursuit of financial objectives. This article provides examples of judicial and legislative responses to perceived fiscal intrusions into clinical practice. Principles for asserting clinical goals in the cost containment process are also provided to assist in the inevitable negotiations and battles ahead. Author-abstract. 26 Refs.

MJ COST-CONTROL: legislation-and-jurisprudence (lj).

DELIVERY-OF-HEALTH-CARE: standards (st). INSURANCE-BENEFITS:

legislation-and-jurisprudence (lj). UTILIZATION-REVIEW:

legislation-and-jurisprudence (lj).

MN ADULT. COST-CONTROL: economics (ec). *DELIVERY-OF-HEALTH-CARE:* economics (ec). FEMALE. HUMAN. INSURANCE-BENEFITS: economics (ec). LEGISLATION-MEDICAL. MALE. *MANAGED-CARE-PROGRAMS:* legislation-and-jurisprudence (lj), standards (st). UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0002-953X. 3VG.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920915.

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AN 92367781. 92000.
AU Hartmann-L.
IN Faculty of Harvard Medical School, Cambridge, MA.
TI Reflections on humane values and biopsychosocial integration.
SO Am-J-Psychiatry. 1992 Sep. 149(9). P 1134-41.
JT AMERICAN JOURNAL OF PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ PSYCHIATRY: standards (st).
MN ECONOMICS-MEDICAL. ETHICS. HUMAN. *MANAGED-CARE-PROGRAMS.* MENTAL-DISORDERS: etiology (et), psychology (px), therapy (th). NOMENCLATURE. SOCIAL-VALUES. SOCIETIES-MEDICAL. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0002-953X. 3VG.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920915.

192

AN 92367083. 92000.
AU Smallwood-K-G. Wilson-C-N.
IN College of Medicine, Department of Internal Medicine, University of Oklahoma Health Sciences Center, Tulsa 74129.
TI Physician-executives past, present, and future.
SO South-Med-J. 1992 Aug. 85(8). P 840-4.
JT SOUTHERN MEDICAL JOURNAL.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The dramatic changes in the United States' health *care* system during the last decade have sparked increasing interest in physician-executives. These executives, skilled in both clinical medicine and health *care* management, can be found in hospitals, *managed* *care* organizations, group practices, and government institutions. This paper outlines the physician-executive's roles and the development process. The remarkable growth in the number of physician-executives is expected to continue as they demonstrate their abilities to help health *care* providers expand ambulatory

services, facilitate provider-physician relationships and physician recruitment, and lend expertise in quality improvement and risk management issues. Author-abstract. 20 Refs.

MJ ADMINISTRATIVE-PERSONNEL. HEALTH-SERVICES:
organization-and-administration (og). PHYSICIANS.
MN FORECASTING. HUMAN. PHYSICIANS-ROLE.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0038-4348. UVH.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920914.

193

AN 92363336. 92000.
AU Schwartz-W-B. Mendelson-D-N.
IN Vannevar Bush University.
TI Why *managed* *care* cannot contain hospital costs--without rationing.
SO Health-Aff (Millwood). 1992 Summer. 11(2). P 100-7.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COST-CONTROL: methods (mt). *HEALTH-CARE-RATIONING:* trends (td).
MANAGED-CARE-PROGRAMS: economics (ec).
MN HOSPITALIZATION. HUMAN. LENGTH-OF-STAY: economics (ec).
SUPPORT-NON-U-S-GOVT. UNITED-STATES.
YR 1992.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920916.

194

AN 92356940. 92000.
AU Neidig-J-R. Megel-M-E. Koehler-K-M.
TI The critical path: an evaluation of the applicability of nursing case management in the NICU.
SO Neonatal-Netw. 1992 Aug. 11(5). P 45-52.
JT NEONATAL NETWORK.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *INTENSIVE-CARE-UNITS-NEONATAL:* organization-and-administration (og).
MANAGED-CARE-PROGRAMS. MATERNAL-CHILD-NURSING:
organization-and-administration (og).
MN HUMAN. INFANT-NEWBORN. INFANT-PREMATURE.
NURSING-ADMINISTRATION-RESEARCH. PARENTS: education (ed).
PATIENT-DISCHARGE. RETROSPECTIVE-STUDIES.
SB Nursing Journals (N).
LI N.

YR 1992.
IS 0730-0832. NEN.
CP UNITED-STATES (Z1.107.567.875).
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ND ENTRY DATE: 920910.

195

AN 92354299. 92000.
AU Snowden-L-R. Holschuh-J.
IN School of Social Welfare, University of California, Berkeley.
TI Ethnic differences in emergency psychiatric *care* and hospitalization
in a program for the severely mentally ill.
SO Community-Ment-Health-J. 1992 Aug. 28(4). P 281-91.
JT COMMUNITY MENTAL HEALTH JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Ethnic differences in rehospitalization were examined in a program of
intensive services for severely mentally ill hospital recidivists.
The purpose was to determine whether ethnicity-related differences in
psychiatric admissions observed in national data would appear among
clients at great risk for hospitalization but enrolled in a program
of *case-managed* *care* to promote community adjustment and tenure.
After accounting for differences in prior emergency visits and
hospitalizations as well as sociodemographic and clinical
differences, blacks were found more likely than whites to visit the
psychiatric emergency room and to be hospitalized. The marked needs
of the severely mentally ill and the intention to address these needs
with services did not obviate the continuing importance of racial
differences in explaining reliance on inpatient sources of *care.*
Author-abstract.
MJ BIPOLAR-DISORDER: ethnology (eh). CROSS-CULTURAL-COMPARISON.
EMERGENCY-SERVICES-PSYCHIATRIC: utilization (ut).
PATIENT-READMISSION: statistics-and-numerical-data (sn).
PSYCHOTIC-DISORDERS: ethnology (eh). SCHIZOPHRENIA: ethnology (eh).
SCHIZOPHRENIC-PSYCHOLOGY.
MN ALCOHOLISM: ethnology (eh), psychology (px), rehabilitation (rh).
BIPOLAR-DISORDER: psychology (px), rehabilitation (rh). CALIFORNIA.
COMBINED-MODALITY-THERAPY. COMPARATIVE-STUDY. FEMALE. HUMAN.
MALE. *MANAGED-CARE-PROGRAMS:* statistics-and-numerical-data (sn).
PSYCHOTIC-DISORDERS: psychology (px), rehabilitation (rh).
PUBLIC-ASSISTANCE: utilization (ut). PUBLIC-HOUSING.
RETROSPECTIVE-STUDIES. SCHIZOPHRENIA: rehabilitation (rh).
SOCIAL-ENVIRONMENT.
SB Priority Journals (M).
YR 1992.
IS 0010-3853. DNH.
CP UNITED-STATES (Z1.107.567.875).
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AN 92350853. 92000.

AU Rogers-J. Grower-R. Supino-P.

IN Department of Family Medicine, Robert Wood Johnson Medical School,
University of Medicine and Dentistry of New Jersey.

TI Participant evaluation and cost of a community-based health promotion
program for elders.

SO Public-Health-Rep. 1992 Jul-Aug. 107(4). P 417-26.

JT PUBLIC HEALTH REPORTS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB There is little information on how best to provide health promotion and disease prevention services to elderly persons. This paper reports participants' perceptions of the effectiveness of a health promotion program consisting of health education classes and case management services. A single-group, posttest only design was used for the county-wide program, which operated independent of participants' primary *care* physicians. Each person received a thorough screening evaluation, was invited to health education classes, and was assigned a case manager for a 2-year health promotion period. Community residents 64-71 years of age were recruited; 475 entered the study, and 378 (79.6 percent) completed the followup evaluation interview. Only one-third of the participants attended at least one class, but a majority of those attending each class rated it very or extremely effective in increasing knowledge. To determine the effectiveness of the case managers, each participant identified the three health problems that were of greatest concern to him or her and indicated which of these priority problems were discussed with the case manager. Discussion with the case manager was significantly associated with continuing to see a personal physician for the problem, following the physician's recommendations, the problem's being under control, and the problem's improving over the 2-year followup. The classes and case management services benefited the participants who used them. How to best deliver these services to the target group needs further study. Author-abstract.

MJ HEALTH-PROMOTION. HEALTH-SERVICES-FOR-THE-AGED.

PREVENTIVE-HEALTH-SERVICES: supply-and-distribution (sd).

MN AGED. CONSUMER-SATISFACTION: statistics-and-numerical-data (sn).

FEMALE. HEALTH-PRIORITIES. HEALTH-PROMOTION: economics (ec).

HEALTH-SERVICES-FOR-THE-AGED: economics (ec). HUMAN. MALE.

MANAGED-CARE-PROGRAMS. MIDDLE-AGE. NEW-JERSEY. PROGRAM-EVALUATION.
SUPPORT-NON-U-S-GOVT.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1992.

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CP UNITED-STATES (Z1.107.567.875).

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AN 92335521. 92000.
AU Reitherman-R-W.
IN UCLA School of Medicine's Harbor-UCLA Medical Center.
TI Will mammographers be ready?
SO Radiol-Technol. 1992 May-Jun. 63(5). P 336-8.
JT RADIOLOGIC TECHNOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ MAMMOGRAPHY.
MN FEMALE. HUMAN. MAMMOGRAPHY: trends (td). *MANAGED-CARE-PROGRAMS.*
SB Priority Journals (M).
YR 1992.
IS 0033-8397. QRD.
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AN 92335041. 92000.
AU Thomas-J.
TI Package deals. Learning disabilities.
SO Nurs-Times. 1992 Jul 15-21. 88(29). P 48-9.
JT NURSING TIMES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ LEARNING-DISORDERS: rehabilitation (rh). *MANAGED-CARE-PROGRAMS.*
PATIENT-CARE-TEAM: organization-and-administration (og).
MN ADULT. CASE-REPORT. HOLISTIC-HEALTH. HUMAN. MALE.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0029-6589. 09U.
CP ENGLAND (Z1.542.363.300).
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AN 92334728. 92000.
TI *Managed* *care,* Democrats' health reform, and nursing reimbursement
`news:.
SO *Nurs-Health-Care.* 1992 Jun. 13(6). P 288.
JT NURSING AND HEALTH *CARE.*
PT NEWS (NEW).
LG English (EN).
MJ ECONOMICS-NURSING. *MANAGED-CARE-PROGRAMS:*
legislation-and-jurisprudence (lj). REIMBURSEMENT-MECHANISMS:
legislation-and-jurisprudence (lj).
MN HUMAN. POLITICS. UNITED-STATES.
SB Nursing Journals (N).

LI N.
YR 1992.
IS 0276-5284. N77.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920820.

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AN 92332752. 92000.
AU Madden-C-W. Hoare-G. Mayers-M. Hagens-W-J.
TI Washington State's Basic Health Plan: choices and challenges.
SO J-Public-Health-Policy. 1992 Spring. 13(1). P 81-96.
JT JOURNAL OF PUBLIC HEALTH POLICY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The current turbulence characterizing the health sector has engendered a limited number of state-level experiments to provide health services for the nation's 37 million uninsured. The issues and challenges generated by each program's design and implementation vary. By examining the experience of one such state program, the Washington Basic Health Plan, in some detail, this paper contributes to the policy debate regarding the possible range of solutions available to address the issue of "the uninsured." By analyzing the array of design choices available at the time the program was enacted, and why certain options were chosen rather than others, this paper points to the complex interaction of political dynamics, public policy development, and program implementation. Author-abstract.
MJ HEALTH-POLICY: legislation-and-jurisprudence (lj).
MANAGED-CARE-PROGRAMS: organization-and-administration (og).
MEDICALLY-UNINSURED. STATE-HEALTH-PLANS:
organization-and-administration (og).
MN HEALTH-SERVICES-ACCESSIBILITY. HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td). STATE-HEALTH-PLANS: legislation-and-jurisprudence (lj).
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YR 1992.
IS 0197-5897. HS5.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920819.
NO 5R01HS06062. GRANT: HS. INSTITUTE: AHCPR.

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AU Elliot-F.
TI Career alternatives. The role of the case manager.
SO Natl-Med-Leg-J. 1992 3rd Quarter. 3(3). P 1, 7.
JT NATIONAL MEDICAL-LEGAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CONSULTANTS. *MANAGED-CARE-PROGRAMS.* SPECIALTIES-NURSING.

MN CAREER-CHOICE. HUMAN. UNITED-STATES.
SB Nursing Journals (N).
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YR 1992.
IS 1052-309X. A3I.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
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AN 92320764. 92000.
AU Tankersley-R-L.
TI Changes and challenges in health insurance.
SO Va-Dent-J. 1992 Jan-Mar. 69(1). P 12-5.
JT VIRGINIA DENTAL JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ INSURANCE-HEALTH: trends (td).
MN *HEALTH-CARE-COSTS.* *HEALTH-CARE-RATIONING.* HUMAN.
INSURANCE-HEALTH-REIMBURSEMENT. *MANAGED-CARE-PROGRAMS.*
UNITED-STATES.
SB Dental Journals (D).
LI D.
YR 1992.
IS 0049-6472. X6R.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920806.

203

AN 92316402. 92000.
AU Rubin-A.
IN University of Texas, Austin School of Social Work 78712.
TI Is case management effective for people with serious mental illness?
A research review `published erratum appears in Health Soc Work 1992
Aug;17(3):238:.
SO Health-Soc-Work. 1992 May. 17(2). P 138-50.
JT HEALTH AND SOCIAL WORK.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Recent literature on caring for people with serious mental illnesses
reflects a growing belief in the effectiveness of case management
services for this population. This article reviews recent outcome
studies on case management to assess the extent to which prevailing
claims that it is effective are supported empirically. Based on this
review, the author concludes that the hypothesis that case management
is effective remains plausible, but conclusive claims that its
efficacy has been empirically demonstrated are premature. The
outcome studies reflect diversity and ambiguity in the ways case
management is conceptualized and implemented, problems in the

research methodologies employed, and inconsistencies in outcomes.
Consequently, implications for further research are drawn.
Author-abstract. 43 Refs.

MJ *MANAGED-CARE-PROGRAMS.* MENTAL-DISORDERS: therapy (th).
MN DEINSTITUTIONALIZATION. HUMAN.
SB Priority Journals (M).
YR 1992.
IS 0360-7283. FZ6.
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LAST REVISION DATE: 921021.

204

AN 92316401. 92000.
AU Chandler-S-M.
IN School of Social Work, University of Hawaii, Honolulu 96822.
TI Brown versus New York: the Rashomon of delivering mental health
services in the 1990s.
SO Health-Soc-Work. 1992 May. 17(2). P 128-36.
JT HEALTH AND SOCIAL WORK.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article examines a case study of one homeless mentally ill woman
in New York City to show the differing perspectives on mental illness
among mental health consumers, family members, mental health
professionals, and advocates. Different issues emerge, and different
priorities for *care* become clear. The social worker as case manager
must design intervention strategies based on these differing
perspectives, a crucial challenge for the profession. This article
reviews the current literature on case management and suggests a
holistic approach that better meets the needs of mentally ill people,
their family members, and the community. Author-abstract.
MJ HOMELESS-PERSONS: psychology (px). MENTAL-DISORDERS: therapy (th).
MENTAL-HEALTH-SERVICES: legislation-and-jurisprudence (lj).
SOCIAL-WORK: trends (td).
MN ADULT. CASE-REPORT. COMMITMENT-OF-MENTALLY-ILL:
legislation-and-jurisprudence (lj). *DELIVERY-OF-HEALTH-CARE:* trends
(td). FEMALE. HUMAN. *MANAGED-CARE-PROGRAMS.* NEW-YORK.
SB Priority Journals (M).
YR 1992.
IS 0360-7283. FZ6.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920806.

205

AN 92310276. 92000.
AU Cannon-J.
TI Medicaid *managed* *care* comes of age.

SO Mich-Med. 1992 Apr. 91(4). P 29-30.
 JT MICHIGAN MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *MANAGED-CARE-PROGRAMS:* economics (ec). MEDICAID: economics (ec).
 MN COST-BENEFIT-ANALYSIS. HUMAN. *MANAGED-CARE-PROGRAMS:*
 organization-and-administration (og), trends(td). MICHIGAN.
 UNITED-STATES.
 YR 1992.
 IS 0026-2293. MX2.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9210.
 ND ENTRY DATE: 920727.

206

AN 92307872. 92000.
 AU Schramm-C-J.
 IN Health Insurance Association of America, Washington, DC 20036-3998.
 TI Government, private health insurance, and the goal of universal
 health *care* coverage.
 SO Inquiry. 1992 Summer. 29(2). P 263-8.
 JT INQUIRY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The Health Insurance Association of America advocates joint efforts
 by federal and state governments and the private sector to achieve
 the goal of universal access to health *care.* It recommends several
 changes in the small employer market to provide greater
 predictability and protection to those insured, including
 establishment of private, not-for-profit reinsurance organizations
 authorized by the states. State risk pools for uninsurable
 individuals who are not part of an employer group are also proposed.
 The federal government role would include expanding Medicaid
 eligibility and exempting all insured plans from state mandated
 benefits. HIAA's proposal also stresses the continued growth and use
 of *managed* *care* programs. Author-abstract.
 MJ HEALTH-SERVICES-ACCESSIBILITY: economics (ec). INSURANCE-HEALTH:
 economics (ec). INTERINSTITUTIONAL-RELATIONS.
 NATIONAL-HEALTH-INSURANCE-UNITED-STATES: economics (ec).
 MN COST-CONTROL. HUMAN. MEDICALLY-UNINSURED.
 ORGANIZATIONAL-OBJECTIVES. POVERTY: statistics-and-numerical-data
 (sn). ROLE. STATE-GOVERNMENT. UNITED-STATES.
 SB Priority Journals (M).
 YR 1992.
 IS 0046-9580. GOT.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9210.
 ND ENTRY DATE: 920730.

207

AN 92305367. 92000.
AU Wood-R-G. Bailey-N-O. Tilkemeier-D.
TI *Managed* *care:* the missing link in quality improvement.
SO *J-Nurs-Care-Qual.* 1992 Jul. 6(4). P 55-65.
JT JOURNAL OF NURSING *CARE* QUALITY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
QUALITY-ASSURANCE-HEALTH-CARE: organization-and-administration (og).
MN DOCUMENTATION: standards (st). HUMAN. RISK-MANAGEMENT.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1057-3631. A82.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920730.

208

AN 92302344. 92000.
AU Herschberg-S.
IN Medigroup Health Centers, Trenton, NJ 08618.
TI Potential conflicts of interest in the delivery of medical services:
an analysis of the situation and a proposal.
SO Qual-Assur-Util-Rev. 1992 Summer. 7(2). P 54-8.
JT QUALITY ASSURANCE AND UTILIZATION REVIEW.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB One health *care* issue that has gained recent public and professional
attention is that of professional conflicts of interest with regard
to financial incentives to either withhold possibly necessary
services or perform unnecessary ones. This essay explores the
evidence bearing on the issue, interprets published information, and
proposes a solution to deal with the issue. Author-abstract.
MJ CONFLICT-OF-INTEREST. PERSONAL-HEALTH-SERVICES: economics (ec).
PHYSICIANS-PRACTICE-PATTERNS: economics (ec).
MN COST-CONTROL. HEALTH-SERVICES-MISUSE: economics (ec). HUMAN.
MANAGED-CARE-PROGRAMS: economics (ec). PERSONAL-HEALTH-SERVICES:
standards (st). PHYSICIAN-INCENTIVE-PLANS. REIMBURSEMENT-INCENTIVE.
SPECIALTIES-MEDICAL: economics (ec). UNITED-STATES.
YR 1992.
IS 0885-713X. QAU.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920723.
LAST REVISION DATE: 921020.

209

AN 92290454. 92000.
AU Friedman-S.

TI Psychiatrist case managers `letter; comment:.
CM Comment on: Hosp Community Psychiatry 1991 Dec;42(12):1221-4.
SO Hosp-Community-Psychiatry. 1992 Jun. 43(6). P 648-9.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT COMMENT (COM). LETTER (LET).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS.* *PATIENT-CARE-TEAM.* PSYCHIATRY.
QUALITY-ASSURANCE-HEALTH-CARE.
MN HUMAN. *OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE.*
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920715.
LAST REVISION DATE: 921005.

210

AN 92290437. 92000.
AU Thompson-J-W. Burns-B-J. Goldman-H-H. Smith-J.
IN Center for Mental Health Policy Studies, Department of Psychiatry,
University of Maryland School of Medicine, Baltimore.
TI Initial level of *care* and clinical status in a *managed* mental health
program.
SO Hosp-Community-Psychiatry. 1992 Jun. 43(6). P 599-603.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Data from 9,055 adult intakes performed over two and a half years of
a *managed* mental health *care* demonstration project in a large U.S.
city were used as indirect measures of quality of *care.* The level of
care to which patients were initially assigned was examined in
relation to the patients' clinical status as judged by both *managed*
care case managers and treatment providers. During the period,
assignment to inpatient *care* of patients in almost every clinical
category decreased. The decrease seemed to reflect a policy decision
to limit use of all inpatient services rather than a selective
elimination of unnecessary hospitalization. Case managers rated a
smaller proportion of patients severely disturbed, partial
hospitalization was rarely used as an alternative to inpatient *care,*
and detoxification services were increasingly used as an inpatient
alternative. Although these data reinforce common beliefs about
managed *care,* the quality of *managed* *care* programs can be accurately
assessed only with data collected specifically for evaluation
purposes. Author-abstract.
MJ *MANAGED-CARE-PROGRAMS:* economics (ec). MENTAL-HEALTH-SERVICES:
organization-and-administration(og). PROGRAM-EVALUATION.
QUALITY-ASSURANCE-HEALTH-CARE: economics (ec).
MN ALCOHOLISM: psychology (px), rehabilitation (rh). COST-CONTROL:
trends (td).DEPRESSIVE-DISORDER: psychology (px), rehabilitation

(rh). HOSPITALIZATION: economics (ec). HUMAN.
MANAGED-CARE-PROGRAMS: standards (st). MENTAL-DISORDERS: psychology (px), rehabilitation (rh). MENTAL-HEALTH-SERVICES: economics (ec), standards (st). PILOT-PROJECTS. PSYCHOTIC-DISORDERS: psychology (px), rehabilitation (rh). SCHIZOPHRENIA: rehabilitation (rh). SCHIZOPHRENIC-PSYCHOLOGY. SUBSTANCE-DEPENDENCE: psychology (px), rehabilitation (rh). SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0022-1597. GCJ.

CP UNITED-STATES (Z1.107.567.875).

IM 9209.

ND ENTRY DATE: 920715.

211

AN 92288338. 92000.

AU Emanuele-T.

TI Who is better prepared to fill the role of case manager? Nurses or social workers? Point.

SO *J-Assoc-Nurses-AIDS-Care.* 1992 Apr-Jun. 3(2). P 36-7.

JT JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS *CARE.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NURSES. SOCIAL-WORK.

MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: nursing (nu). HUMAN.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1055-3290. A7P.

CP UNITED-STATES (Z1.107.567.875).

IM 9209.

ND ENTRY DATE: 920716.

212

AN 92288337. 92000.

AU Horzempa-L.

TI Who is better prepared to fill the role of case manager? Nurses or social workers? Counterpoint.

SO *J-Assoc-Nurses-AIDS-Care.* 1992 Apr-Jun. 3(2). P 36-7.

JT JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS *CARE.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og). NURSES. SOCIAL-WORK.

MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: nursing (nu). HUMAN.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 1055-3290. A7P.

CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920716.

213

AN 92288335. 92000.
AU Sowell-R-L. Gueldner-S-H. Killeen-M-R. Lowenstein-A. Fuszard-B.
Swansburg-R.
TI Impact of case management on hospital charges of PWAs in Georgia.
SO *J-Assoc-Nurses-AIDS-Care.* 1992 Apr-Jun. 3(2). P 24-31.
JT JOURNAL OF THE ASSOCIATION OF NURSES IN AIDS *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB To determine the effects of case management in controlling hospital based costs for persons with AIDS (PWAs), a retrospective review of records of deceased PWAs was performed. The study compared diagnosis-to-death hospital charges for PWAs who received *care* under a *care* management model (n = 60) with PWAs receiving *care* within a non-case *managed* approach (n = 60). Hospital charges were adjusted for inflation. PWAs receiving *care* within the case *managed* model had significantly lower hospital-based charges than the non-case *managed* group. Additionally, PWAs in the case *managed* group lived significantly longer between HIV diagnosis and death, and lived longer between their first AIDS-related hospital admission and death. Author-abstract.
MJ ACQUIRED-IMMUNODEFICIENCY-SYNDROME: economics (ec).
FEES-AND-CHARGES. *MANAGED-CARE-PROGRAMS.*
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: therapy (th).
ECONOMICS-HOSPITAL. GEORGIA. HUMAN. LENGTH-OF-STAY.
RETROSPECTIVE-STUDIES. SUPPORT-U-S-GOVT-P-H-S.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 1055-3290. A7P.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920716.
NO 1R03HS0631501. GRANT: HS. INSTITUTE: AHCPR.

214

AN 92283015. 92000.
AU Simmons-F-M.
TI Developing the trauma nurse case manager role.
SO *Dimens-Crit-Care-Nurs.* 1992 May-Jun. 11(3). P 164-70.
JT DIMENSIONS OF CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The case manager serves as the coordinator of all *care* for a specific caseload of patients throughout an episode of illness. This role includes management, clinical, consultation, education, and research

roles. Case management is especially important to implement for trauma patients who otherwise have wide variations in outcomes because of the trauma and concomitant social problems. This author describes how the case management role can be implemented, includes a sample job description of the multiple-responsibilities, and provides a case study demonstrating the case manager's role. Author-abstract.

MJ *MANAGED-CARE-PROGRAMS.* SPECIALTIES-NURSING. WOUNDS-AND-INJURIES:
nursing (nu).
MN ADULT. CASE-REPORT. HUMAN. JOB-DESCRIPTION. MALE.
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE. *PATIENT-CARE-PLANNING.*
PATIENT-CARE-TEAM. SOCIOECONOMIC-FACTORS.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0730-4625. EAO.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920706.

215

AN 92283009. 92000.
AU Zander-K.
TI Focusing on patient outcome: case management in the 90's.
SO *Dimens-Crit-Care-Nurs.* 1992 May-Jun. 11(3). P 127-9.
JT DIMENSIONS OF CRITICAL *CARE* NURSING.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *CRITICAL-CARE.* *MANAGED-CARE-PROGRAMS.*
OUTCOME-ASSESSMENT-HEALTH-CARE.
MN HUMAN. *PATIENT-CARE-PLANNING.*
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0730-4625. EAO.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920706.

216

AN 92276679. 92000.
AU DeMaria-A-N. Hutter-A-M Jr. Hatlie-M-J. Schiffer-H-M. Yerkes-L.
TI 23rd Bethesda conference: access to cardiovascular *care.* Task Force
4: Influence of private sector parties on access to cardiovascular
care.
SO J-Am-Coll-Cardiol. 1992 Jun. 19(7). P 1469-77.
JT JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.
PT CONSENSUS-DEVELOPMENT-CONFERENCE (CDC). JOURNAL-ARTICLE (ART).
REVIEW (REV).
LG English (EN).

AB 15 Refs.
MJ CARDIOVASCULAR-DISEASES. HEALTH-SERVICES-ACCESSIBILITY.
INSURANCE-HEALTH.
MN DRUG-INDUSTRY. HEALTH-BENEFIT-PLANS-EMPLOYEE. HUMAN.
INSURANCE-LIABILITY: economics (ec). LIABILITY-LEGAL: economics
(ec). *MANAGED-CARE-PROGRAMS:* trends (td). TECHNOLOGY-MEDICAL.
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0735-1097. H50.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920626.

217

AN 92276237. 92000.
AU Geraty-R-D. Hendren-R-L. Flaa-C-J.
IN Department of Psychiatry, Cambridge Hospital, Harvard Medical School,
Boston, MA.
TI Ethical perspectives on *managed* *care* as it relates to child and
adolescent psychiatry.
SO J-Am-Acad-Child-Adolesc-Psychiatry. 1992 May. 31(3). P 398-402.
JT JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB *Managed* health *care* is providing an increasing influence in the way
child and adolescent psychiatry is practiced. The goals of *managed*
care have been to manage price, service, and quality. As external
forces are brought to bear on child and adolescent psychiatry,
ethical and legal dilemmas are faced. Underlying principles and the
impact of society force physicians to reexamine their values and
reeducate themselves about legal developments. Author-abstract.
MJ ADOLESCENT-PSYCHIATRY. CHILD-PSYCHIATRY. ETHICS-MEDICAL.
MANAGED-CARE-PROGRAMS. PHYSICIANS-ROLE.
MN ADOLESCENCE. CHILD. HUMAN. LIABILITY-LEGAL.
MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence(lj).
QUALITY-ASSURANCE-HEALTH-CARE: legislation-and-jurisprudence (lj).
YR 1992.
IS 0890-8567. HG5.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920701.

218

AN 92264811. 92000.
AU Robinson-J-A. Robinson-K-J. Lewis-D-J.
TI Balancing quality of *care* and cost-effectiveness through case
management.
SO ANNA-J. 1992 Apr. 19(2). P 182-8.
JT ANNA JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The changing climate within the health *care* system has necessitated the exploration of innovative strategies to provide quality-based cost-effective *care.* At a time when cost, quality, and efficiency are key issues, communication and coordination are crucial. Through a deliberate, collaborative approach to goal-directed *care,* case management facilitates the linking of quality and cost-effective *care.* Author-abstract.

MJ *MANAGED-CARE-PROGRAMS.* *PATIENT-CARE-PLANNING:* standards (st).
QUALITY-ASSURANCE-HEALTH-CARE: organization-and-administration (og).

MN ADULT. CASE-REPORT. *CONTINUITY-OF-PATIENT-CARE.*
COST-BENEFIT-ANALYSIS. DECISION-TREES. HUMAN. MALE.
PATIENT-CARE-PLANNING: economics (ec). PATIENT-DISCHARGE.

SB Nursing Journals (N).

LI N.

YR 1992.

IS 8750-0779. 61F.

CP UNITED-STATES (Z1.107.567.875).

IM 9208.

ND ENTRY DATE: 920618.

219

AN 92264420. 92000.

AU Mechanic-D.

TI *Managed* *care* for the seriously mentally ill `editorial; comment:.

CM Comment on: Am J Public Health 1992 Jun;82(6):790-6.

SO Am-J-Public-Health. 1992 Jun. 82(6). P 788-9.

JT AMERICAN JOURNAL OF PUBLIC HEALTH.

PT COMMENT (COM). EDITORIAL (EDI).

LG English (EN).

MJ HEALTH-SERVICES-ACCESSIBILITY: standards (st).

MANAGED-CARE-PROGRAMS: organization-and-administration(og).

MENTAL-DISORDERS: therapy (th).

MN HUMAN. *MANAGED-CARE-PROGRAMS:* economics (ec).

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1992.

IS 0090-0036. 3XW.

CP UNITED-STATES (Z1.107.567.875).

IM 9208.

ND ENTRY DATE: 920618.

220

AN 92263330. 92000.

AU Risk-R-R.

TI Multihospital systems: the turning point.

SO *Top-Health-Care-Financ.* 1992 Spring. 18(3). P 46-53.

JT TOPICS IN HEALTH *CARE* FINANCING.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ MULTI-INSTITUTIONAL-SYSTEMS: trends (td). PLANNING-TECHNIQUES.
MN *AMBULATORY-CARE:* trends (td). HEALTH-RESOURCES: trends (td). HUMAN.
MANAGED-CARE-PROGRAMS: trends (td). MOTIVATION.
MULTI-INSTITUTIONAL-SYSTEMS: economics (ec),
statistics-and-numerical-data (sn).
NATIONAL-HEALTH-INSURANCE-UNITED-STATES: trends (td).
QUALITY-OF-HEALTH-CARE. UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0095-3814. VVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920612.

221

AN 92252808. 92000.
AU Roberts-L-J. Shaner-A. Eckman-T-A. Tucker-D-E. Vaccaro-J-V.
IN UCLA Clinical Research Center for Schizophrenia and Psychiatric
Rehabilitation.
TI Effectively treating stimulant-abusing schizophrenics: mission
impossible?
SO New-Dir-Ment-Health-Serv. 1992 Spring. (53). P 55-65.
JT NEW DIRECTIONS FOR MENTAL HEALTH SERVICES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The development of effective treatment programs for dual diagnosis
patients is in its initial stages, hampered by a variety of clinical,
theoretical, administrative, and even sociopolitical obstacles.
These patients are difficult to engage and treat effectively using
standard systems of *care.* The Dual Diagnosis Treatment Program at
the Brentwood VA Hospital integrates treatment for both stimulant
abuse and chronic psychosis within one comprehensive program,
emphasizing continuous treatment teams, optimal pharmacological
management, behavior-shaping strategies, skills-training techniques,
and assertive case management. The combination of these treatment
approaches within one program appears to have helped some patients in
our preliminary, one-year experience. Future publications will
describe results from controlled outcome comparisons of DDTP with
customary VA *care.* Author-abstract.
MJ AMPHETAMINES. COCAINE. SCHIZOPHRENIA: rehabilitation (rh).
SCHIZOPHRENIC-PSYCHOLOGY. SUBSTANCE-ABUSE: rehabilitation (rh).
SUBSTANCE-DEPENDENCE: rehabilitation (rh).
MN ADULT. CASE-REPORT. COMBINED-MODALITY-THERAPY. HUMAN. MALE.
MANAGED-CARE-PROGRAMS. SUBSTANCE-ABUSE: psychology (px).
SUBSTANCE-DEPENDENCE: psychology (px).
RN 0 -- Amphetamines.
50-36-2 -- Cocaine.
YR 1992.
IS 0193-9416. NDM.
CP UNITED-STATES (Z1.107.567.875).

IM 9208.
ND ENTRY DATE: 920609.
CLASS UPDATE: 92.

222

AN 92252807. 92000.
AU McFarlane-W-R. Stastny-P. Deakins-S.
IN Biosocial Treatment Research Division, New York State Psychiatric
Institute, New York.
TI Family-aided assertive community treatment: a comprehensive
rehabilitation and intensive case management approach for persons
with schizophrenic disorders.
SO New-Dir-Ment-Health-Serv. 1992 Spring. (53). P 43-54.
JT NEW DIRECTIONS FOR MENTAL HEALTH SERVICES.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-MENTAL-HEALTH-SERVICES. FAMILY-THERAPY: methods (mt).
MANAGED-CARE-PROGRAMS. SCHIZOPHRENIA: rehabilitation (rh).
SCHIZOPHRENIC-PSYCHOLOGY.
MN ACTIVITIES-OF-DAILY-LIVING: psychology (px). ADULT. CASE-REPORT.
CHRONIC-DISEASE. COMBINED-MODALITY-THERAPY. HUMAN. MALE.
SOCIAL-SUPPORT.
YR 1992.
IS 0193-9416. NDM.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920609.

223

AN 92250241. 92000.
AU Jablensky-A.
IN Neuroscience and Behaviour Research, Medical Academy, Sofia,
Bulgaria.
TI Politics and mental health I.
SO Int-J-Soc-Psychiatry. 1992 Spring. 38(1). P 24-9.
JT INTERNATIONAL JOURNAL OF SOCIAL PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The origins and evolution of psychiatry as a medical discipline since
the end of the 18th century have been influenced by society's beliefs
about the 'nature of man', the dominant forms of social organisation,
and the level of technology which could be mobilised to modify human
behaviour. These are also the themes from which politics develop.
Throughout the past two centuries and up to the present day, two
distinct streams can be traced in the political history of
psychiatry: first, psychiatry as social control of deviance; and
secondly, psychiatry as advocacy of the 'right to be different'. The
'third psychiatric revolution' which is now in progress in many parts
of the world has been inspired by the second set of beliefs. It has
already produced positive effects on the quality of life of many

patients but is also experiencing certain setbacks. The extent to which the new approach to mental health *care* delivery will benefit patients and society depends not so much on psychiatry as a discipline as on the perceptions and actions of politicians.

Author-abstract.

MJ CROSS-CULTURAL-COMPARISON. DEINSTITUTIONALIZATION:
legislation-and-jurisprudence (lj). HEALTH-POLICY:
legislation-and-jurisprudence (lj). MENTAL-HEALTH-SERVICES:
legislation-and-jurisprudence (lj). POLITICS.
MN COMPARATIVE-STUDY. EUROPE. HUMAN. *MANAGED-CARE-PROGRAMS:*
legislation-and-jurisprudence *(lj).PATIENT-CARE-TEAM:*
legislation-and-jurisprudence (lj).
SB Priority Journals (M).
YR 1992.
IS 0020-7640. GT5.
CP ENGLAND (Z1.542.363.300).
IM 9208.
ND ENTRY DATE: 920609.

224

AN 92249889. 92000.
AU Surles-R-C. Blanch-A-K. Shern-D-L. Donahue-S-A.
TI Case management as a strategy for systems change.
SO Health-Aff (Millwood). 1992 Spring. 11(1). P 151-63.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS.* MENTAL-HEALTH-SERVICES:
organization-and-administration (og). STATE-HEALTH-PLANS:
organization-and-administration (og).
MN ADULT. FEMALE. HEALTH-POLICY. HUMAN. MALE. NEW-YORK.
ORGANIZATIONAL-INNOVATION. PROGRAM-EVALUATION. QUALITY-OF-LIFE.
UNITED-STATES.
YR 1992.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920605.

225

AN 92249888. 92000.
AU Mechanic-D. Rochefort-D-A.
IN Institute for Health, Health *Care* Policy, and Aging Research, Rutgers
University.
TI A policy of inclusion for the mentally ill.
SO Health-Aff (Millwood). 1992 Spring. 11(1). P 128-50.
JT HEALTH AFFAIRS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ COMMUNITY-MENTAL-HEALTH-SERVICES: organization-and-administration

(og). DEINSTITUTIONALIZATION. HEALTH-POLICY. HOMELESS-PERSONS.
MN COMMUNITY-MENTAL-HEALTH-CENTERS. COMMUNITY-MENTAL-HEALTH-SERVICES:
economics (ec), trends (td). FINANCING-ORGANIZED. HOSPITALS-PUBLIC:
trends (td), utilization (ut). HOUSING. HUMAN.
MANAGED-CARE-PROGRAMS. POPULATION-DYNAMICS.
REIMBURSEMENT-INCENTIVE. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
YR 1992.
IS 0278-2715. GAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920605.
NO MH43450. GRANT: MH. INSTITUTE: NIMH.

226

AN 92241825. 92000.
AU Goering-P. Wasylenki-D. Onge-M-S. Paduchak-D. Lancee-W.
IN Health Systems Research Unit, Clarke Institute of Psychiatry,
Toronto, Ontario, Canada.
TI Gender differences among clients of a case management program for the
homeless.
SO Hosp-Community-Psychiatry. 1992 Feb. 43(2). P 160-5.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Differences between 24 female and 35 male clients were assessed at
entry into an intensive case management program serving homeless
shelter residents and again nine months later. Both men and women
were socially isolated, with small social networks and severe
deficits in social functioning. Histories of homelessness were
similar for both genders, and there were no gender differences in
psychopathology at baseline or follow-up. At entry into the program
women had higher levels of social skills, larger and more supportive
networks, and better housing conditions than men, but these
differences disappeared after the subjects spent nine months in the
program. Inadequate living conditions may have contributed to the
more negative initial picture for men. Although there were more
similarities than differences between the men and women in this
sample, more research on gender differences is needed to design and
evaluate programs for homeless mentally ill persons.
Author-abstract.
MJ HOMELESS-PERSONS: statistics-and-numerical-data (sn).
MANAGED-CARE-PROGRAMS: utilization (ut). MENTAL-DISORDERS:
epidemiology (ep).
MN ADULT. AGED. COMMUNITY-MENTAL-HEALTH-SERVICES: utilization (ut).
CROSS-SECTIONAL-STUDIES. DISABILITY-EVALUATION. FEMALE.
FOLLOW-UP-STUDIES. HOMELESS-PERSONS: psychology (px). HUMAN.
INCIDENCE. MALE. MENTAL-DISORDERS: psychology (px), rehabilitation
(rh). MIDDLE-AGE. ONTARIO: epidemiology (ep).
PSYCHIATRIC-STATUS-RATING-SCALES. PSYCHOTIC-DISORDERS: epidemiology
(ep), psychology (px), rehabilitation (rh).

REHABILITATION-VOCATIONAL: utilization (ut). SEX-FACTORS.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920604.

227

AN 92240944. 92000.
AU Buckley-R. Bigelow-D-A.
IN Strathcona Community *Care* Team of Greater Vancouver Mental Health Services, British Columbia, Canada.
TI The multi-service network: reaching the unserved multi-problem individual.
SO Community-Ment-Health-J. 1992 Feb. 28(1). P 43-50.
JT COMMUNITY MENTAL HEALTH JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A small number of multi-problem, service-resistant individuals in every metropolitan community consume extraordinary amounts of human service at great cost to publicly-funded agencies with less than satisfactory benefit to the individual. This paper describes an innovative collaboration among mental health, alcohol/drug treatment, corrections, forensic, and social and housing agencies to provide more effective services at less cost. The theory of action was that (1) inter-agency communication and (2) external controls developed by core service agencies increase the efficacy of treatment and reduce the cost of caring for multi-problem clients. Agencies refer clients to the Multi-Service Network who are then screened for problematic multi-agency involvement. Case conferences result in individual service plans. Three illustrative cases are described and the results of two evaluative studies summarized. Cost of *care* for clients appears to have been reduced. Agencies appear to have benefited from improved information and communication. Clients' behavior was stabilized by external controls and more adequate attention to their needs. Author-abstract.
MJ MENTAL-DISORDERS: rehabilitation (rh). *PATIENT-CARE-TEAM.* PSYCHOTROPIC-DRUGS. SUBSTANCE-ABUSE: rehabilitation (rh).
MN ACTIVITIES-OF-DAILY-LIVING: psychology (px). ADULT. ANTISOCIAL-PERSONALITY-DISORDER: psychology (px), rehabilitation (rh). CASE-REPORT. CHRONIC-DISEASE. COMMITMENT-OF-MENTALLY-ILL. *CONTINUITY-OF-PATIENT-CARE.* FEMALE. HUMAN. MALE. *MANAGED-CARE-PROGRAMS.* MENTAL-DISORDERS: psychology (px). MENTAL-RETARDATION: psychology (px), rehabilitation (rh). PATIENT-COMPLIANCE: psychology (px). SUBSTANCE-ABUSE: psychology (px). VIOLENCE.
RN 0 -- Psychotropic-Drugs.
SB Priority Journals (M).
YR 1992.

IS 0010-3853. DNH.
CP UNITED-STATES (Z1.107.567.875).
IM 9208.
ND ENTRY DATE: 920604.

228

AN 92236795. 92000.
TI *Managed* *care*.
SO Nev-Rnformation. 1992 Feb. 1(1). P 10-1.
JT NEVADA RNFORMATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
NURSING. *NURSING-CARE*.
MN AMERICAN-NURSES-ASSOCIATION. HEALTH-MAINTENANCE-ORGANIZATIONS:
organization-and-administration (og). HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0273-4117. NWR.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920528.

229

AN 92230977. 92000.
AU Kirkman-Liff-B. Kronenfeld-J-J.
IN School of Health Administration and Policy, College of Business,
Arizona State University, Tempe 85287-4506.
TI Access to cancer screening services for women.
SO Am-J-Public-Health. 1992 May. 82(5). P 733-5.
JT AMERICAN JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A major effort in preventive *care* for women has emphasized the
obtaining of Pap smears and mammograms. This paper uses survey data
from one state to examine issues of access to Pap smears and
mammograms. Poor women receiving health *care* through a *managed-care*
Medicaid program received these services at the same rate as women
with other types of health insurance, while the uninsured were less
likely to have had either type of service. Author-abstract.
MJ BREAST-NEOPLASMS: prevention-and-control (pc).
HEALTH-SERVICES-ACCESSIBILITY. INSURANCE-PHYSICIAN-SERVICES.
MAMMOGRAPHY: utilization (ut). MASS-SCREENING. MEDICAID.
UTERINE-NEOPLASMS: prevention-and-control (pc). VAGINAL-SMEARS:
utilization (ut).
MN ADULT. ARIZONA. COMPARATIVE-STUDY. ETHNIC-GROUPS:
statistics-and-numerical-data (sn).FEMALE. HUMAN.
LOGISTIC-MODELS. MAMMOGRAPHY: economics (ec). MASS-SCREENING:
economics (ec), utilization (ut). MEDICALLY-UNINSURED:

statistics-and-numerical-data (sn). RANDOM-ALLOCATION.
SUPPORT-NON-U-S-GOVT. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.

230

AN 92227863. 92000.
AU Lupo-V-R.
TI HCMC stymied in efforts to treat medical assistance patients `letter;
comment:.
CM Comment on: Minn Med 1991 Dec;74(12):7.
SO Minn-Med. 1992 Mar. 75(3). P 7-8.
JT MINNESOTA MEDICINE.
PT COMMENT (COM). LETTER (LET).
LG English (EN).
MJ AID-TO-FAMILIES-WITH-DEPENDENT-CHILDREN. HOSPITALS-COUNTY.
MANAGED-CARE-PROGRAMS. TREATMENT-REFUSAL.
MN HUMAN. MINNESOTA.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.
LAST REVISION DATE: 921005.

231

AN 92227852. 92000.
AU Olson-C-L.
TI County hospital staffs not abandoning patients `letter; comment:.
CM Comment on: Minn Med 1991 Dec;74(12):7.
SO Minn-Med. 1992 Feb. 75(2). P 7-8.
JT MINNESOTA MEDICINE.
PT COMMENT (COM). LETTER (LET).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY: economics (ec).
MANAGED-CARE-PROGRAMS: economics (ec). MEDICAL-ASSISTANCE: economics
(ec). REFUSAL-TO-TREAT.
MN ADOLESCENCE. COST-CONTROL. FEMALE. HOSPITALS-COUNTY. HUMAN.
INFANT-NEWBORN. MINNESOTA. PREGNANCY.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.
LAST REVISION DATE: 921005.

232

AN 92227851. 92000.
AU Bluford-J-W.
TI HCMC shares concern for teenage medical assistance patients `letter;
comment:.
CM Comment on: Minn Med 1991 Dec;74(12):7.
SO Minn-Med. 1992 Feb. 75(2). P 7.
JT MINNESOTA MEDICINE.
PT COMMENT (COM). LETTER (LET).
LG English (EN).
MJ HEALTH-SERVICES-ACCESSIBILITY: economics (ec).
MANAGED-CARE-PROGRAMS: economics (ec). MEDICAL-ASSISTANCE: economics
(ec). PREGNANCY-IN-ADOLESCENCE.
MN ADOLESCENCE. COST-CONTROL: trends (td). FEMALE. HUMAN.
INFANT-NEWBORN. MINNESOTA. PREGNANCY.
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.
LAST REVISION DATE: 921005.

233

AN 92220358. 92000.
TI Career scope--North central.
SO Nurs-Manage. 1992 Apr. 23(4). P 89-96.
JT NURSING MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CAREER-CHOICE.
MN EDUCATION-NURSING-CONTINUING. *HOME-CARE-SERVICES.* HUMAN.
MANAGED-CARE-PROGRAMS. MIDWESTERN-UNITED-STATES. MODELS-NURSING.
NEOPLASMS: nursing (nu). PATIENT-EDUCATION.
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0744-6314. OBV.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920514.

234

AN 92217412. 92000.
AU Korn-A-M.
IN William M. Mercer, Inc., Chicago, IL 60606.
TI Case management and quality of *care* for diabetic patients.
SO *Diabetes-Care.* 1992 Mar. 15 Suppl 1. P 59-61.
JT DIABETES *CARE.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Increasing clinical demand for medical services in an environment of limited financial resources to reimburse for such services has lead to the evolution of case management processes. They may be defined as processes that help achieve the best possible clinical outcome for a patient at a cost that represents the best value to the patient and benefit plan. The most responsive and sensitive execution of a case management process is one that includes a high level of physician peer review. This type of case management may enhance the quality of *care* rendered to diabetic and other patients. *Care* that is neither necessary nor appropriate cannot be considered quality, no matter who renders it, nor how good the outcome. A case management process that focuses on medical necessity and seeks flexibility from patients, physicians, providers, and payors can help to maintain appropriate high-quality *care* with costs that, over time, deliver value to all participants in the process. The execution of, and the elements contained within, a clinically sensitive case management process is briefly discussed. Author-abstract.

MJ DIABETES-MELLITUS: economics (ec). *MANAGED-CARE-PROGRAMS:* standards (st).

MN AMERICAN-MEDICAL-ASSOCIATION. DIABETES-MELLITUS: therapy (th). HUMAN. *QUALITY-ASSURANCE-HEALTH-CARE.* UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0149-5992. EAG.

CP UNITED-STATES (Z1.107.567.875).

IM 9207.

ND ENTRY DATE: 920513.

235

AN 92217410. 92000.

AU Homa-Lowry-J.

IN Health *Care* Knowledge Resources, Ann Arbor, MI 48106-0303.

TI Quality assurance issues.

SO *Diabetes-Care.* 1992 Mar. 15 Suppl 1. P 51-3.

JT DIABETES *CARE.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Since 1965, when the Medicare and Medicaid programs were established by amendments to the Social Security Act, there has been an evolution from internal utilization review of hospital *care* to internal and external review of quality assurance. Hospitalizations for diabetes as a primary diagnosis have decreased over this period, suggesting that more diabetes *care* is delivered as outpatient *care* and is therefore not subject to quality assurance review. Although it is difficult to discern the effect of quality assurance programs and case management on the quality of diabetes *care,* it is certain that these programs will have a major influence in the future. Author-abstract.

MJ DIABETES-MELLITUS: therapy (th). *QUALITY-ASSURANCE-HEALTH-CARE:* organization-and-administration (og).

MN DIABETES-MELLITUS: economics (ec).
DIABETES-MELLITUS-INSULIN-DEPENDENT: therapy (th).
DIABETES-MELLITUS-NON-INSULIN-DEPENDENT: therapy (th). HOSPITALS:
standards (st). HUMAN.
JOINT-COMMISSION-ON-ACCREDITATION-OF-HEALTHCARE-ORGANIZATIONS.
MANAGED-CARE-PROGRAMS: standards (st). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0149-5992. EAG.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920513.

236

AN 92215329. 92000.
AU Shulkin-D-J. Kronhaus-A-K. Nash-D-B.
IN Robert Wood Johnson Foundation Clinical Scholars Program, University
of Pennsylvania School of Medicine, Philadelphia.
TI A privately financed fellowship model for management training of
physicians.
SO Acad-Med. 1992 Apr. 67(4). P 266-70.
JT ACADEMIC MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This paper describes the ongoing need for physician executives and
reviews current opportunities for training physicians in management.
The authors discuss existing sources of funding and highlight one
management training program that uses various mechanisms of a new
funding model that can increase the number and diversity of learning
opportunities, not only in management but also in all disciplines
where training traditionally has been underfunded. The basic
mechanism of this new model is as follows: a privately funded program
uses a locum tenens arrangement whereby a physician fellow works in
a community-based private practice in order to produce both
compensation for work done and funding for training at an academic
institution. Finally, the authors suggest that academic institutions
and *managed* *care* organizations might consider such a model as one
means of using clinical income to expand management training within
the contexts of their existing academic missions and patient *care*
commitments. Author-abstract.
MJ FELLOWSHIPS-AND-SCHOLARSHIPS: economics (ec). MEDICAL-DIRECTORS:
education (ed). MODELS-THEORETICAL. TRAINING-SUPPORT: methods (mt).
MN FELLOWSHIPS-AND-SCHOLARSHIPS: organization-and-administration (og).
FOUNDATIONS: economics (ec). HUMAN. INCOME. *MANAGED-CARE-PROGRAMS*:
economics (ec). NORTH-CAROLINA. SUPPORT-NON-U-S-GOVT.
TRAINING-SUPPORT: standards (st).
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 1040-2446. ACM.
CP UNITED-STATES (Z1.107.567.875).

IM 9207.
ND ENTRY DATE: 920514.

237

AN 92210074. 92000.
AU Shore-M.
TI *Managed* *care:* reinventing the wheel `editorial:.
SO Hosp-Community-Psychiatry. 1992 Mar. 43(3). P 205.
JT HOSPITAL AND COMMUNITY PSYCHIATRY.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* trends (td). *QUALITY-ASSURANCE-HEALTH-CARE:*
trends (td).
MN COST-CONTROL: trends (td). HUMAN. *MANAGED-CARE-PROGRAMS:* economics
(ec). *QUALITY-ASSURANCE-HEALTH-CARE:* economics (ec). UNITED-STATES.
SB Priority Journals (M).
YR 1992.
IS 0022-1597. GCJ.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920504.

238

AN 92204521. 92000.
AU Schull-D-E. Tosch-P. Wood-M.
TI Clinical nurse specialists as collaborative *care* managers.
SO Nurs-Manage. 1992 Mar. 23(3). P 30-3.
JT NURSING MANAGEMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NURSE-CLINICIANS: organization-and-administration (og).
NURSING-TEAM:organization-and-administration (og).
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: nursing (nu).
CEREBROVASCULAR-DISORDERS: nursing (nu). EPILEPSY: nursing (nu).
HUMAN. *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
OUTCOME-ASSESSMENT-HEALTH-CARE: organization-and-administration (og).
SB Nursing Journals (N).
LI N.
YR 1992.
IS 0744-6314. OBV.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920430.

239

AN 92192996. 92000.
AU Johnson-R-L.
TI The entrepreneurial physician.
SO *Health-Care-Manage-Rev.* 1992 Winter. 17(1). P 73-9.
JT HEALTH *CARE* MANAGEMENT REVIEW.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This article draws on the experience of interviews of hundreds of physicians in the last few years. Those at mid-career have deep concerns about what lies ahead for them. A character, Dr. Charles Evans, has been created to describe some of the major possibilities being thought about and explored by physicians who believe their profession is now changing in ways they never had anticipated. Author-abstract.

MJ ECONOMICS-MEDICAL: statistics-and-numerical-data (sn).

ENTREPRENEURSHIP. PRACTICE-MANAGEMENT-MEDICAL: trends (td).

MN DEFENSIVE-MEDICINE. FINANCIAL-MANAGEMENT. HUMAN. INTERVIEWS.

MANAGED-CARE-PROGRAMS. PRACTICE-MANAGEMENT-MEDICAL: economics (ec).

PRIMARY-HEALTH-CARE. UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0361-6274. G11.

CP UNITED-STATES (Z1.107.567.875).

IM 9206.

ND ENTRY DATE: 920423.

240

AN 92192995. 92000.

AU OConnor-S-J. Lanning-J-A.

IN School of Business Administration, University of Wisconsin-Milwaukee.

TI The end of autonomy? Reflections on the postprofessional physician.

SO *Health-Care-Manage-Rev.* 1992 Winter. 17(1). P 63-72.

JT HEALTH *CARE* MANAGEMENT REVIEW.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Of the many characteristics that classify the practice of medicine as a profession, autonomy plays the most important role. There are currently assaults on the profession's ability to select, train, and license its own practitioners and on the medical knowledge base itself, as well as the standards for applying it. This article examines factors contributing to this reduction in autonomy and reviews potential impacts on the profession, patients, payors, health *care* organizations, and managers. Author-abstract.

MJ PHYSICIANS-ROLE. PRACTICE-MANAGEMENT-MEDICAL.

PROFESSIONAL-AUTONOMY.

MN EDUCATION-MEDICAL. ENTREPRENEURSHIP. ETHICS-MEDICAL. HUMAN.

LICENSURE-MEDICAL. *MANAGED-CARE-PROGRAMS:* trends (td).

PROFESSIONAL-CORPORATIONS: trends (td).

QUALITY-ASSURANCE-HEALTH-CARE. SOCIAL-CONTROL-FORMAL.

UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0361-6274. G11.

CP UNITED-STATES (Z1.107.567.875).

IM 9206.

ND ENTRY DATE: 920423.

241

AN 92191088. 92000.
AU Heginbotham-C.
IN King's Fund College, London.
TI Rationing.
SO BMJ. 1992 Feb 22. 304(6825). P 496-9.
JT BMJ.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-CARE-RATIONING:* economics (ec).
MN GREAT-BRITAIN. HUMAN. *MANAGED-CARE-PROGRAMS.* QUALITY-OF-LIFE.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 9206.
ND ENTRY DATE: 920423.

242

AN 92187422. 92000.
AU Adams-R. Briones-E-H. Rentfro-A-R.
IN Valley Baptist Medical Center, Harlingen, TX.
TI Cultural considerations: developing a nursing *care* delivery system for a Hispanic community.
SO Nurs-Clin-North-Am. 1992 Mar. 27(1). P 107-17.
JT NURSING CLINICS OF NORTH AMERICA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Transcultural nursing should be the main focus of the nurse in any setting. Increased mobility of society demonstrates the need to understand anthropologic and cultural differences. The Valley provides a laboratory in which transcultural nursing can be examined more closely. Cadena recommends that MA nurses remain open to personal feelings generated by relationships with MA patients. The astute nurse assesses each patient's level of assimilation and provides *care* based on the findings. Comprehensive communication and patient and family participation are the keys to successful transcultural nursing. Sensitivity to modesty and pride translates into professional understanding of holistic needs rather than humiliation and alienation of the patient. At VBMC, these concepts are translated into working systems through the UACs and the *bedside-managed* *care* delivery system. Author-abstract.
MJ CULTURE. HEALTH-SERVICES-INDIGENOUS: organization-and-administration (og). MEXICAN-AMERICANS. NURSING-SERVICE-HOSPITAL: organization-and-administration (og). TRANSCULTURAL-NURSING.
MN CASE-REPORT. COMMUNICATION. *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og). HUMAN. MALE. MIDDLE-AGE.

ORGANIZATIONAL-INNOVATION. TEXAS. TRANSCULTURAL-NURSING:
organization-and-administration (og). VISITORS-TO-PATIENTS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing
Journals (N).
YR 1992.
IS 0029-6465. 092.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920414.

243

AN 92177006. 92000.
AU Kelly-K-C.
TI Managing *care:* a search for role clarity `editorial:.
SO J-Nurs-Adm. 1992 Mar. 22(3). P 9-10.
JT JOURNAL OF NURSING ADMINISTRATION.
PT EDITORIAL (EDI).
LG English (EN).
MJ *MANAGED-CARE-PROGRAMS:* organization-and-administration (og).
MODELS-NURSING.
MN *DELIVERY-OF-HEALTH-CARE.* HUMAN. NURSE-ADMINISTRATORS.
UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Nursing
Journals (N).
YR 1992.
IS 0002-0443. JEL.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920409.

244

AN 92176925. 92000.
AU Schulz-R. Girard-C. Scheckler-W-E.
IN Department of Preventive Medicine, University of Wisconsin, Madison
53706.
TI Physician satisfaction in a *managed* *care* environment.
SO J-Fam-Pract. 1992 Mar. 34(3). P 298-304.
JT JOURNAL OF FAMILY PRACTICE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND. The professional literature suggests that changes toward
the bureaucratization of medical practice have led to increasing job
dissatisfaction, especially in primary *care.* To investigate this
claim, we surveyed physicians in Dane County, Wisconsin, who practice
in a bureaucratic setting. Dane County has experienced essentially
a demise in independent practice, ie, most physicians practice in
organizational settings where expenses and total patient income are
pooled. About 85% of physicians have joined one of the six competing
health maintenance organizations (HMOs). METHODS. In 1986 all 850
physicians in Dane County were surveyed to determine their

perceptions of clinical freedom, satisfaction with income, status in their profession, autonomy, resources, and professional relations, and their overall satisfaction. RESULTS. We found that over 69% of primary *care* physicians were very satisfied or satisfied with their practices overall compared with 68% of physicians in all specialties. Differences between family practice and other primary *care* specialties were not statistically significant. Our regression analysis showed that only for satisfaction with income were responses from primary *care* physicians significantly different from those of physicians in surgical specialties. Perceptions of clinical autonomy and specific organizational settings were more important to predicting satisfaction. Also, age and sex contributed to differences in satisfaction with resources and status, respectively. CONCLUSIONS. We conclude that satisfaction can be fairly high for primary *care* physicians in bureaucratic settings similar to that of Dane County. Author-abstract.

MJ JOB-SATISFACTION. *MANAGED-CARE-PROGRAMS.* PHYSICIANS.
MN GROUP-PRACTICE. HEALTH-MAINTENANCE-ORGANIZATIONS. HUMAN.
SUPPORT-NON-U-S-GOVT. WISCONSIN.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0094-3509. I4L.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920403.

245

AN 92167926. 92000.
AU Platt-J-B.
TI Physician malpractice and *managed* *care* plans.
SO Minn-Med. 1992 Jan. 75(1). P 31-3.
JT MINNESOTA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ LIABILITY-LEGAL. MALPRACTICE: legislation-and-jurisprudence (lj).
MANAGED-CARE-PROGRAMS: legislation-and-jurisprudence (lj).
MN COST-CONTROL: legislation-and-jurisprudence (lj). HUMAN.
QUALITY-ASSURANCE-HEALTH-CARE: legislation-and-jurisprudence (lj).
YR 1992.
IS 0026-556X. NBY.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

246

AN 92165702. 92000.
AU Hazell-P-L.
TI Clinical continuity `letter:.
SO J-Am-Acad-Child-Adolesc-Psychiatry. 1992 Jan. 31(1). P 172-3.
JT JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY.

PT LETTER (LET).
LG English (EN).
MJ AFFECTIVE-SYMPTOMS: therapy (th). CHILD-BEHAVIOR-DISORDERS: therapy (th). *CONTINUITY-OF-PATIENT-CARE.* *MANAGED-CARE-PROGRAMS.* REFERRAL-AND-CONSULTATION.
MN ADOLESCENCE. AFFECTIVE-SYMPTOMS: psychology (px). CHILD. CHILD-BEHAVIOR-DISORDERS: psychology (px). HUMAN. *PATIENT-CARE-TEAM.*
YR 1992.
IS 0890-8567. HG5.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

247

AN 92165684. 92000.
AU Cohen-R-L.
IN University of Pittsburgh School of Medicine, PA.
TI Child and adolescent psychiatry: mid-course corrections.
SO J-Am-Acad-Child-Adolesc-Psychiatry. 1992 Jan. 31(1). P 1-5.
JT JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The President of the American Academy of Child and Adolescent Psychiatry examines and assesses past Academy plans for its scientific development, educational program, service delivery, advocacy, and recruitment initiatives. The influence of governmental programs, reimbursement trends *(managed* *care),* and over-sight and review mechanisms are described. The Academy's future medical agenda, public policy efforts, and research priorities are noted. Author-abstract.
MJ ADOLESCENT-PSYCHIATRY: trends (td). CHILD-PSYCHIATRY: trends (td).
MN ADOLESCENCE. CHILD. COST-CONTROL: trends (td). FORECASTING. HUMAN. SOCIETIES-MEDICAL: trends (td). SPECIALISM: trends (td). UNITED-STATES.
YR 1992.
IS 0890-8567. HG5.
CP UNITED-STATES (Z1.107.567.875).
IM 9206.
ND ENTRY DATE: 920401.

248

AN 92162111. 92000.
AU Haag-A-B. Glazner-L-K.
TI A remembrance of the past, an investment for the future.
SO AAOHN-J. 1992 Feb. 40(2). P 56-60.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Occupational health nursing has evolved from a single dimension practice into a complex role providing primary *care,* health maintenance, and disease prevention programs at the worksite. The focus of the 1990s will be on *managed* *care,* health *care* reform, and competition for resources. Occupational health nurses are in a strategic position to foster the objectives set forth in Healthy People 2000. Occupational health nurses must take the lead in the development and implementation of cost effective health *care* programs at the worksite. Occupational health nurses must communicate and demonstrate the nature and value of their contributions; demonstrate their competencies; and become knowledgeable in all areas of occupational health and safety. They must acknowledge that they are leaders in workplace health and safety. Author-abstract.

MJ JOB-DESCRIPTION. OCCUPATIONAL-HEALTH-NURSING: trends (td). ROLE.

MN FORECASTING. HUMAN. OCCUPATIONAL-HEALTH-NURSING: methods (mt).

SB Nursing Journals (N).

LI N.

YR 1992.

IS 0891-0162. AA0.

CP UNITED-STATES (Z1.107.567.875).

IM 9206.

ND ENTRY DATE: 920402.

249

AN 92152336. 92000.

AU Krieger-J-W. Connell-F-A. LoGerfo-J-P.

IN Department of Medicine, School of Medicine, University of Washington.

TI Medicaid prenatal *care:* a comparison of use and outcomes in fee-for-service and *managed* *care.*

SO Am-J-Public-Health. 1992 Feb. 82(2). P 185-90.

JT AMERICAN JOURNAL OF PUBLIC HEALTH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB BACKGROUND. To control rising costs, state Medicaid agencies are enrolling recipients in *managed* *care* health plans (MCPs). We performed this study to assess this policy's impact on accessibility and outcomes of Medicaid-funded prenatal *care.* METHODS. We performed a retrospective, controlled study with three cohorts: a study group of 1106 Medicaid recipients enrolled in three MCPs, a matched comparison group of 4830 recipients receiving *care* in the fee-for-service (FFS) system, and a second matched comparison group of 4434 non-Medicaid enrollees of the same MCPs. Data on prenatal *care* use and birth outcomes were obtained through linkage of claims and discharge files with birth certificate files. RESULTS. Medicaid recipients enrolled in MCPs used prenatal *care* similarly to those in the FFS system and showed equal or modestly improved birth-weight distributions. However, Medicaid MCP enrollees showed poorer use of prenatal *care* and birth outcomes compared with non-Medicaid enrollees of the same plans. CONCLUSIONS. Enrollment in MCPs has a neutral or small beneficial effect on the prenatal *care* received by the Medicaid

population. However, providing financial access and modifying the system of *care* for this population did not result in parity with the general population. Author-abstract.

MJ FEES-MEDICAL. *MANAGED-CARE-PROGRAMS:* standards (st). MEDICAID.
PRENATAL-CARE: standards (st).
MN BIRTH-CERTIFICATES. BIRTH-WEIGHT. COMPARATIVE-STUDY. COST-CONTROL.
FEMALE. HEALTH-SERVICES-ACCESSIBILITY: standards (st).
HEALTH-SERVICES-RESEARCH. HUMAN. *MANAGED-CARE-PROGRAMS:* economics
(ec), utilization (ut). PREGNANCY. PREGNANCY-OUTCOME.
PRENATAL-CARE: economics (ec), utilization (ut).
RETROSPECTIVE-STUDIES. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1992.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920319.
NO MCJ9043.

250

AN 92150066. 92000.
AU Whyte-J-J. Cantor-M-D.
TI Grappling with *managed* *care:* where does medical education fit?
SO Pa-Med. 1992 Jan. 95(1). P 24-5.
JT PENNSYLVANIA MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB While the effects of *managed* *care* on access and quality have been extensively debated, the implications of these efforts on medical education have not been widely explored. Because *managed* *care* will increasingly impact upon medical education, now is an opportune time to examine its effect and to discuss the need for medical students to be aware of *managed* *care* principles. Author-abstract.
MJ EDUCATION-MEDICAL. *MANAGED-CARE-PROGRAMS.*
MN COST-CONTROL. HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td).
PENNSYLVANIA.
YR 1992.
IS 0031-4595. 00G.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920313.

251

AN 92131579. 92000.
AU Cartland-J-D. Yudkowsky-B-K.
IN Division of Research on Health Policy, American Academy of Pediatrics, Elk Grove Village, IL 60009.
TI Barriers to pediatric referral in *managed* *care* systems.
SO Pediatrics. 1992 Feb. 89(2). P 183-92.

JT PEDIATRICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Anecdotal evidence suggests that children's access to pediatric subspecialty and inpatient *care* is hampered by referral barriers imposed by *managed* *care* systems. To identify such barriers and determine how they affect the referral process, a sample of American Academy of Pediatrics Fellows (n = 1598) was surveyed. The response rate was 79.1% (n = 1264). Of those pediatricians in direct patient *care* (n = 956), 71.4% participated in a *managed* *care* plan. Pediatricians referred patients in *managed* *care* systems somewhat less frequently than in traditional pay systems: 8.7% and 6.9% referred *managed* *care* patients to subspecialists and inpatient *care,* respectively, less often. More than 20% and 10% of pediatricians with patients in *managed* *care* systems had at least one referral to subspecialist *care* and inpatient *care,* respectively, denied in the previous year. Pediatricians experienced more barriers in preferred provider organizations than in health maintenance organizations. These data suggest that utilization management programs, such as those used in *managed* *care* systems, may limit necessary access to pediatric subspecialty and inpatient *care.* Author-abstract.

MJ HEALTH-SERVICES-ACCESSIBILITY: statistics-and-numerical-data (sn). *MANAGED-CARE-PROGRAMS:* utilization (ut). PEDIATRICS: statistics-and-numerical-data (sn). REFERRAL-AND-CONSULTATION: statistics-and-numerical-data (sn).

MN CHILD. CHILD-HEALTH-SERVICES: utilization (ut). HEALTH-MAINTENANCE-ORGANIZATIONS: utilization (ut). HUMAN. INSURANCE-CLAIM-REVIEW. PREFERRED-PROVIDER-ORGANIZATIONS: utilization (ut). QUESTIONNAIRES. UNITED-STATES. UTILIZATION-REVIEW.

SB Abridged Index Medicus Journals (A). Priority Journals (M). YR 1992.

IS 0031-4005. OXV.

CP UNITED-STATES (Z1.107.567.875).

IM 9205.

ND ENTRY DATE: 920228.

252

AN 92109377. 92000.

AU Joel-L.

TI Uncharted waters of *managed* *care.*

SO Am-Nurse. 1992 Jan. 24(1). P 5.

JT AMERICAN NURSE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *MANAGED-CARE-PROGRAMS.* *NURSING-CARE.*

MN *DELIVERY-OF-HEALTH-CARE.* HEALTH-MAINTENANCE-ORGANIZATIONS. HUMAN. UNITED-STATES.

SB Nursing Journals (N).

LI N.

YR 1992.
IS 0098-1486. 40D.
CP UNITED-STATES (Z1.107.567.875).
IM 9204.
ND ENTRY DATE: 920212.

253

AN 92108254. 92000.
TI Psychotherapy in the future. Committee on Therapy. Group for the
Advancement of Psychiatry.
SO Rep-Group-Adv-Psychiatry. 1992. (133). P 1-69.
JT REPORT / GROUP FOR THE ADVANCEMENT OF PSYCHIATRY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ PSYCHOTHERAPY: trends (td).
MN FORECASTING. HUMAN. *MANAGED-CARE-PROGRAMS:* trends (td).
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE: trends (td).
PATIENT-CARE-TEAM: trends (td). PROFESSIONAL-PATIENT-RELATIONS.
PSYCHOTHERAPY: education (ed). UNITED-STATES.
YR 1992.
IS 0888-3394. RBI.
CP UNITED-STATES (Z1.107.567.875).
IM 9204.
ND ENTRY DATE: 920210.
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Research articles are full-length manuscripts reporting scientific research and discovery in the broad field of environmental health and may come from any field of scientific research. Criteria for publication are weighted toward quality and environmental significance.

Title Page: List title, authors (first or second names spelled out in full), full address of the institution where the work was done, and affiliation of each author. Indicate author to whom galley proofs and reprints should be sent (include telephone and FAX numbers).

Second Page: Provide a short title (not to exceed 50 characters and spaces) that can be used as a running head. List 5 to 10 key words for indexing purposes. List and define all abbreviations. Nomenclature and symbols should conform to the recommendations of the American Chemical Society or the International Union of Pure and Applied Chemistry (IUPAC). Include acknowledgments and grant information.

Abstract: Place a double-spaced abstract on the third page. The abstract should not exceed 250 words. The abstract should state the purpose of the study, basic procedures, main findings, and the principal conclusions. Emphasize new and important aspects of the study or observations. The abstract should not include details of materials and methods or references.

Introduction: Begin the Introduction on a new page. State the purpose of the research and give a brief overview of background information. Do not include data or conclusions from the work being reported.

Methods: Begin on a new page. Describe the materials used and their sources. Include enough detail to allow the work to be repeated by other researchers in the field or cite references that contain this information.

Results: Begin on a new page. Present your results in logical sequence in the text. Do not repeat materials and methods, and do not repeat data in tables or figures. Summarize only important observations. Results and Discussion may be combined if desired.

Discussion: Begin this section on a new page. Emphasize new and important aspects of the study and the conclusions that follow. Relate results to other relevant studies. Do not simply recapitulate data from the Results section.

References: Begin this section on new page. References are to be numbered in order of citation in the text and should be cited in the text by number in parentheses. The style for references is as follows:

Journal Article:

1. Canfield RE, Connor JF, Birken S, Kirchevsky A, Wilcox AJ. Development of an assay for a biomarker of pregnancy in early fetal loss. *Environ Health Perspect* 74:57-66(1987).

Book Chapter:

2. Lohman AHM, Lammers AC. On the structure and fiber connections to the olfactory centers in mammals. In: *Progress in brain research: sensory mechanisms*, vol 23 (Zotterman Y, ed). New York:Elsevier, 1967;65-82.

Books:

3. Harper R, Smith ECB, Land DB. *Odour description and classification*. New York:Elsevier, 1968.

Editor as Author:

4. Doty RL, ed. *Mammalian olfaction, reproductive processes, and behaviour*. New York:Academic Press, 1976.

Report:

5. NCTR. Guidelines for statistical tests for carcinogenicity in chronic bioassays. Biometry technical report 81-001. Jefferson, Arkansas:National Center for Toxicological Research, 1981.

Abbreviate journal names according to Index Medicus or Serial Sources for the BIOSIS Previews Database. List all authors; do not use et al. in the bibliography. Include the title of the journal article or book chapter and inclusive pagination. References to papers that have been accepted for publication but have not yet been published should be cited in the same manner as other references, with the name of the journal followed by *in press*. Personal communications, unpublished observations, manuscripts in preparation, and submitted manuscripts should not be listed in the bibliography. They are to be inserted at appropriate places in the text, in parentheses, without a reference number.

Figures and Legends: Four sets of publication-quality figures are required. Graphs and figures should be submitted as original drawings in black India ink, laser-printed computer drawings, or as glossy photographs. Dot matrix computer drawings are not acceptable as original art. Graphs and other drawn figures will be reproduced as submitted and will not be redrawn. The style of figures should be uniform throughout the paper. Letters, numbers, and symbols must be drawn to be at least 1.5 mm (6 points) high after reduction. Choose a scale so that each figure may be reduced to one-, two-, or three-column width. Identify all figures on the back with the authors' names and figure number; indicate TOP. Color figures will be considered for publication if the color facilitates

data recognition and comprehension.

Figure legends should be typed on a separate page following the references. Legends should be numbered with Arabic numerals.

Tables: Each table must be on a separate page. Tables should be numbered with Arabic numerals. General footnotes to tables should be indicated by lowercase superscript letters beginning with a for each table. Footnotes indicating statistical significance should be identified by *, **, #, ##. Type footnotes directly after the table. Complex tables should be submitted as glossy photographs.

Chemical Structures, Chemical Equations, and Mathematical Equations: To avoid problems with typesetting, structures and equations should be submitted as original drawings or as glossy photographs.

Computer Disks: Electronic copies of initially submitted manuscripts are not required. Revised manuscripts resubmitted after acceptance for publication must be sent in electronic form together with two hard copies. Submission of a computer disk is not absolutely necessary for publication of your manuscript; however, publication will be facilitated if a disk is included.

Submit electronic formats on 3.5" disks suitable for reading on either PC or Macintosh platforms. Macintosh is the preferred platform, although PCs are acceptable. The file should contain all the parts of the manuscript in ONE file. Complex tables, chemical structures, figures, and drawings should be submitted separately as glossy photographs as discussed above.

Label the outside of the disk with the title of the manuscript and the authors. Name the computer used (e.g., IBM, IBM compatible, Macintosh, etc.) and the operating system and version (e.g., DOS 3.3). Identify the word processing program and version (e.g., WordPerfect 5.1). We can convert the following programs:

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AppleWorks GS WP	MultiMate v. 4
AppleWorks WP v. 2.1,3	OfficeWriter
DCA-RFT (DisplayWrite)	Professional Write
FrameMaker MIF v. 2,3	RTF (Rich Text Format)
MacWrite II	WordPerfect Mac v. 1,2,2.1
MacWrite	WordPerfect PC v. 4.2,5,5.1
MS Word Mac v. 3,4,5,5.1	WordPerfect Windows v. 5.1
MS Word PC	WordStar
MS Word Windows v. 1,2	WPS-Plus VMS
MS Works WP Mac v. 2,3	WriteNow Mac v. 2
MS Works WP PC v. 2	WriteNow NeXT
MS Works WP Windows	XYWrite III

Brief reports are short, original articles, generally of a novel nature. The total length of the manuscript, including abstract, figures, references, and tables, should not exceed 12 pages. Begin with the title page, second page, and abstract as described for research articles. The abstract should not exceed 150 words. Begin the text on page 4 but do not separate the text into

Introduction, Methods, Results, and Discussion; include all parts in a continuous body of text. Keep your descriptions of materials and methods as brief as possible. Begin the body of text with a brief introduction. Handle results and discussion together in the body of the text. References, abbreviations, figures, and tables should be handled as described for research articles.

Research Advances are concise articles intended to address only the most recent developments in a scientific field. Lengthy historical perspectives are not appropriate. Begin with the title page and continue as described for research articles. References, abbreviations, figures, and tables should be handled as described for research articles. Clarity of presentation is of primary importance and the use of color figures is encouraged. Include a photograph (black and white or color) of the author together with a brief biography. If multiple authors or groups are involved then up to three biographies with photographs may be included.

Innovations are short articles that describe novel approaches to the study of environmental issues. Prepare initial pages as described for Research Advances including a brief abstract. Maintain text in a clear and precise manner and wherever possible include color photographs to illustrate strategy and clarify conceptual problems. Some degree of speculation regarding the potential usefulness of a new technique or novel process in other areas of environmental health may be included.

Commentaries are short articles offering ideas, insight, or perspectives. Begin with a title page and second page as described for research articles. Include a brief abstract.

Reviews & Commentary are brief, up-to-date, narrowly focussed, review articles with commentaries offering perspective and insight. Begin with a title page and second page as described for Research Articles. Include an abstract and handle references, tables, figures, and abbreviations as described for research articles.

Meeting Reports should not exceed 2400 words in length. Begin with the title of the meeting and authorship of the report and on the same page continue with the text (double-spaced). Detail when and where the meeting was held, how many people participated, who sponsored the meeting, and any special organizational arrangements. Meeting sponsors and principal participants, such as session chairmen, may be listed in the form of a footnote. Do not couch your narrative in the form of what each speaker said. The report should summarize the contributions of the meeting to scientific knowledge, insight, and perspective. Space in the journal is severely limited so be selective: only the highlights should be mentioned. Novel ideas, perspectives, and insights should be emphasized. Do not describe social aspects of the meeting. Send an electronic and four hard copies.

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Supplement Manuscripts result from conferences, symposia, or workshops and may take several forms. 1) Manuscripts reporting

original research should be formatted as described for either Research Articles or Brief reports, 2) opinions and discussion about a particular topic should be formatted as described for Commentaries, 3) manuscripts reviewing a topic or reporting a combination of review and original research should be formatted as described below for Perspective Reviews.

Perspective Reviews are in-depth, comprehensive reviews of a specific area. They should begin with a title and second page as described for research articles. Introduction and presentation of information should be continuous with specific items and discussion identified by using subheadings. Abstracts, references, abbreviations, figures, and tables should also be handled as described for research articles.

Proposals for the publication of conference, symposium, and workshop proceedings will be considered; however, space is limited. We turn away many excellent proposals simply because we do not have space to publish them.

All proposals are reviewed and examined with a number of specific questions in mind. In developing a proposal, consider the following: Proposals are assessed according to their originality and scientific merit. Is the supplement needed? Is the subject matter timely and potentially useful to workers in the field? What is the environmental significance of the topic being addressed? Is the proposed supplement a complete representation of the field? Are there other aspects that should be included? Does the proposal contain sufficient information for evaluation? Is the presentation clear? Can the organizers integrate the participants into a cohesive unit? Are the contributors appropriate for the topic listed and do they have scientific credibility?

The source of funding is also considered. Scientific objectivity is extremely important, and it must be clear that organizers are not being used to present a bias favored by the funding body. Contributions from an interested party to a conference need not disqualify a proposal, but it is appropriate that the major source of funding be from a disinterested source or that organizational safeguards be set in place to minimize the intrusion of institutional bias.

All proposals must be submitted at least 6 months in advance of the conference. In the publication of conference proceedings, timeliness is essential. Because it takes at least 6 months to publication, no proposal will be considered after the conference has been held.

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Associate News Editor

Environmental Health Perspectives

National Institute of Environmental Health Sciences

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Items submitted for inclusion in the Forum section must not exceed 400 words. Items may be edited for style or content, and by-lines are not attached to these articles. If possible, items should be submitted on computer disk using WordPerfect or Microsoft Word, in straight text without formatting.

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Position announcements will be limited to scientific and environmental health positions and will be run on a space-permitting basis. Although we seek to publish all appropriate announcements, the timeliness of publication cannot be guaranteed.

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P01CA12536 HALL, ERIC J SMALL DOSES OF RADIATION-PROJECT
NUMBER.....5 P01 CA12536-23UB: 0003 INVESTIGATOR NAME/ADDRESS
FY 94 HALL, ERIC JIRG/INTRAMURAL UNIT..SRC
COLUMBIA UNIVERSITYAWARD AMOUNT..... \$210,636 HEALTH SCIENCES
NEW YORK, NY 10032PERFORMING
ORGANIZATION: COLUMBIA UNIVERSITY NEW YORKTITLE SMALL DOSES OF RADIATION SUB
TITLE TRANSFORMATION AND MUTAGENESIS

ABSTRACT:

In vitro assays for transformation and mutagenesis represent powerful research tools. Because of the exquisite sensitivity of the experimental systems, possible in large self-contained experiments, low doses of radiation and/or chemicals can be studied that would be quite impractical to detect in human epidemiological surveys, or indeed in most experimental animal systems. The effects of doses of the order of cGy of neutrons or tens of cGy of gamma-rays can be detected and measured. The specific aims of this project fall into four categories. The first, using short-term in vitro cultures of Syrian hamster embryo (SHE) cells involves pragmatic aims of basic importance in radiation protection. We press SPACE for more, q to quit will investigate the inverse dose-rate effect, up to now demonstrated unequivocally only for C3H10 T1/2 cells. It is important to know if this effect is a general phenomenon or confined to one cell line. The in vitro assay will be used to investigate fractionated versus single doses of charged particles of defined LET, while the in utero/in vitro assay will be used for fractionation studies with 6 MeV neutrons. It is also planned to synchronize SHE cells in order to investigate the age response function for the transformational end-point. Second, SHE and C3H 10T1/2 cells will be used to assess the oncogenic potential of photon neutrons. Third, mutations in human keratinocytes and oncogenic transformation in SHE cells will be studied as a function of LET for charged particles in the track segment mode. These data will be fed into the core project entitled hierarchy of radiation effects which attempts to model the biological effects of radiation from patterns of energy deposition to the expression of biological effect. Fourth, we will continue to develop quantitative assays for transformation based on cells of human origin, and estimate the frequency with which radiation induces immortality and transformation. None exist at the present time that are truly quantitative. The goals of this project, therefore, are central to the principal mission of this program project, which is to investigate the biological effects of low doses of radiation.

P01CA12536 HALL, ERIC J SMALL DOSES OF RADIATION-PROJECT
NUMBER.....5 P01 CA12536-23UB: 0003 INVESTIGATOR NAME/ADDRESS
FY 94 HALL, ERIC JIRG/INTRAMURAL UNIT..SRC
COLUMBIA UNIVERSITYAWARD AMOUNT..... \$210,636 HEALTH SCIENCES
NEW YORK, NY 10032PERFORMING

ORGANIZATION: COLUMBIA UNIVERSITY NEW YORKTITLE SMALL DOSES OF RADIATION SUB
TITLE TRANSFORMATION AND MUTAGENESIS ABSTRACT: In vitro assays for transformation and mutagenesis represent powerful research tools. Because of the exquisite sensitivity of the experimental systems, possible in large self-contained experiments, low doses of radiation and/or chemicals can be studied that would be quite impractical to detect in human epidemiological surveys, or indeed in most experimental animal systems. The effects of doses of the order of cGy of neutrons or tens of cGy of gamma-rays can be detected and measured. The specific aims

of this project fall into four categories. The first, using short-term in vitro cultures of Syrian hamster embryo (SHE) cells involves pragmatic aims of basic importance in radiation protection. We Press SPACE for more, q to quit will investigate the inverse dose-rate effect, up to now demonstrated Press SPACE for more, q to quit unequivocally only for C3H10 T1/2 cells. It is important to know if this effect is a general phenomenon or confined to one cell line. The in vitro assay will be used to investigate fractionated versus single doses of charged particles of defined LET, while the in utero/in vitro assay will be used for fractionation studies with 6 MeV neutrons. It is also planned to synchronize SHE cells in order to investigate the age response function for the transformational end-point. Second, SHE and C3H 10T1/2 cells will be used to assess the oncogenic potential of photon neutrons. Third, mutations in human keratinocytes and oncogenic transformation in SHE cells will be studied as a function of LET for charged particles in the track segment mode. These data will be fed into the core project entitled hierarchy of radiation effects which attempts to model the biological effects of radiation from patterns of energy deposition to the expression of biological effect. Fourth, we will continue to develop quantitative assays for transformation based on cells of human origin, and estimate the frequency with which radiation induces immortality and transformation. None exist at the present time that are truly quantitative. The goals of this project, therefore, are central to the principal mission of this program project, which is to investigate the biological effects of low doses of radiation.

P01CA12536 KLIAUGA, PAUL SMALL DOSES OF RADIATION-PROJECT
NUMBER.....5 P01 CA12536-23UB: 0016 INVESTIGATOR NAME/ADDRESS
FY 94 KLIAUGA, PAUL IRG/INTRAMURAL UNIT..SRC
COLUMBIA UNIVERSITY AWARD AMOUNT..... \$210,636 HEALTH SCIENCES
NEW YORK, NY 10032 PERFORMING
ORGANIZATION: COLUMBIA UNIVERSITY NEW YORK TITLE SMALL DOSES OF RADIATION SUB
TITLE EXPERIMENTAL NANODOSIMETRY ABSTRACT: Much recent biological research supports
the view that close range interactions, of the order of nanometers, can be a dominant
factor in the production of biological damage from ionizing radiation. Until
now, energy distributions at this level could be calculated and inferred, but could
not be measured experimentally. A new instrument, designed and developed in this
Center displays the capability of achieving this goal. This newly designed wall-less
proportional counter is in process of construction. The design is based on a
previously produced conventional walled counter called the UMC (ultra-miniature
counter) which has been shown to be successful in the measurement of single-event
energy Press SPACE for more, q to quit deposition distributions at simulated tissue
equivalent sizes of about 10 nm, far lower than any previously achieved. The new
wall-less design will provide much more accurate spectra for those high LET
radiations whose spectra are most distorted by the so-called wall effect, such
as neutrons. This counter, unlike the UMC, can be calibrated accurately. It will then
be used to provide the first experimental determination of neutron ionization
distributions in nanometer-size sites. With this counter it will be possible to do
measurements on the full range of monoenergetic neutrons available at the RARAF
facility, including the new low energy neutron facility, at site sizes 10 nm and
larger. Measurement of photon neutron contamination from pulsed high energy
radiotherapy beams is also possible. These measurements can in turn supply a
solid experimental base for application of risk assessment in medical and health

physics applications.

R37CA15378 OLEINICK, NANCY L RADIATION-INDUCED MODIFICATIONS IN
PRO-PROJECT NUMBER.....5 R37 CA15378-21 INVESTIGATOR NAME/ADDRESS
FY 94 OLEINICK, NANCY LIRG/INTRAMURAL UNIT..RAD
CASE WESTERN RESERVE UNIVERSITYAWARD AMOUNT..... \$361,642
BIOMEDICAL RESEARCH BLDG 324

CLEVELAND, OH 44106PERFORMING ORGANIZATION: CASE WESTERN RESERVE UNIVERSITYTITLE
RADIATION-INDUCED MODIFICATIONS IN PROTEIN SYNTHESIS ABSTRACT: The central goal of
this research is to delineate at the molecular levelthe structural features of
eukaryotic chromatin which determine thesusceptibility to damage by ionizing
radiation and subsequent repair of theDNA housed therein. The experiments are
designed to test the hypothesis(a) that DNA within relaxed chromatin is more
sensitive to indirectradiation damage and (b) that repair involves a dynamic
participation of anuclear protein complex, perhaps the nuclear matrix. Mammalian
cell lines have been selected because they permit the controlledmodification of
chromatin structure of defined genes or sequences andbecause appropriate genetic
probes are available. Cell culture conditionsPress SPACE for more, q to quitwill be
modified to place the genes in either condensed or relaxedchromatin. The yield of
radiation-induced single-strand breaks andDNA-protein cross-links will be
determined, along with the kinetics ofrepair of those lesions, in the defined genes
as compared to the bulk DNA.Damage will be determined by agarose electrophoresis,
filter binding, andgel filtration chromatography, and the various genes will be
probed byhybridization. The frequency of the particular genes in damaged
vs.undamaged portions of the DNA will permit the calculation of the yield oflesions
in the various chromatin sub-types. The protein complex whichappears to be involved
in DNA-protein cross-linking will be analyzed, andits protein components compared to
those of the nuclear matrix. Acceptorsof poly(ADP-ribose) polymerase will be
identified and localized on activeor inactive chromatin, or the nuclear matrix.
Changes in thepoly(ADP-ribosylation) of the acceptor proteins will be correlated
with therepair of active and bulk chromatin. Until recently, most studies of
ionizing radiation-induced damage in DNAconsidered the entire cellular DNA without
regard for the nucleareenvironment. Modern biotechnology now permits the dissection
of the DNAinto regions which are more or less susceptible to radiation damage.
Thenext advances in this area should come from the detailed analysis of therole of
chromatin structure in determining the sensitivity of DNA toradiation damage and
should assist in providing models of DNA damage andPress SPACE for more, q to
quitrepair for application to clinical radiology.

P30CA46934 HENDRICK, E CANCER CENTER CORE GRANT-PROJECT
NUMBER.....5 P30 CA46934-06UB: 9008 INVESTIGATOR NAME/ADDRESS
FY 93 HENDRICK, EIRG/INTRAMURAL UNIT..CCS
UNIVERSITY OF COLORADOAWARD AMOUNT..... \$234,870 4200 E 9TH AVE,
BOX B190 DENVER, CO 80262PERFORMING
ORGANIZATION: UNIVERSITY OF COLORADO HLTH SCIENCES CTRTITLE CANCER CENTER CORE
GRANT SUB TITLE CORE--RADIOLOGICAL SCIENCES ABSTRACT: SUBPROJECT ABSTRACT NOT
AVAILABLE. PARENT ABSTRACT: The University of Colorado Cancer Center is a
"Center" within theSchool of Medicine at the University of Colorado Health Sciences

Center. The Cancer Center goals are: 1) to contribute through coordinated research, clinical, control and educational activities effort to the eventual elimination of cancer as a human health problem, and 2) to provide the citizens of the State of Colorado and the Rocky Mountain region with state-of-the-art cancer research, therapy, control and Press SPACE for more, q to quit educational programs. The Cancer Center serves 6 million people in Colorado and the 7 surrounding states in the Rocky Mountain region. The 190 Cancer Center members have more than \$21 million (annual direct costs) in peer reviewed grants and contracts relating to the cancer problem. Cancer Center members provide care to approximately one-third of the cancer population in the region and enter more than 400 patients on cancer clinical trials each year. The Cancer Center enters an increasing number of patients of clinical trials emphasizing novel trials of the Center and high priority trials of the National Cancer Institute. The majority of cancer educational and control programs in the region are organized by Cancer Center members. The Center provides the major centralized support for these functions through its 10 shared "core" facilities in Biostatistics, Clinical Investigations, Cytogenetics, Fermentation, Flow Cytometry, Histopathology/Tissue Procurement, Laboratory Animals/Transgenic Animals, Macromolecular Resources, Radiological Sciences and Tissue Culture/Monoclonal Antibodies. The Cancer Center has 14 institutional members including the Health Sciences Center schools, affiliated hospitals and other institutions with a primary focus in cancer. The chief executive officers of these organizations form the Cancer Center Board which assures coordination of the cancer effort in the region. The Cancer Center has four major program divisions: Basic Research, Clinical Activities, Education and Press SPACE for more, q to quit Control. The Basic Research and Clinical Activities Divisions are divided into: Immunology; Molecular Biology; Growth Regulation; Cell Surface; Hormones and Cancer; Chromosomes, Mutation and Carcinogenesis; Medical Oncology; Surgical Oncology; Radiation Oncology; Nursing Oncology; and Pediatric Oncology program areas. The primary planning and operational decisions of the Cancer Center are made by the Management Committee which consists of the Director, Deputy Director, Associate Directors and Program Leaders. The University of Colorado Cancer Center has become the leader for the interdisciplinary study of cancer in the Rocky Mountain Region.

R01EY02648	WORGUL, BASIL V	RADIATION CATARACTOGENESIS-PROJECT
NUMBER.....5	R01 EY02648-14	INVESTIGATOR NAME/ADDRESS
	FY 92	WORGUL, BASIL VIRG/INTRAMURAL UNIT..RAD
	COLUMBIA UNIV/EYE RAD ENV RES	AWARD AMOUNT..... \$276,124
	WEST 168TH STREET	NEW YORK, NY 630

10032 PERFORMING ORGANIZATION: COLUMBIA UNIVERSITY NEW YORK TITLE RADIATION CATARACTOGENESIS ABSTRACT: The ERRL of Columbia University is a facility uniquely equipped and staffed to realize its long term commitment to: 1) Assess the cataractogenic risk to the lens from exposure to ionizing radiation. 2) Elucidate the mechanism by which radiation produces cataracts. 3) Exploit the similarity between experimental radiation cataracts and some types of human cataracts to gain insight into the nature of the cortical opacification in general. In adhering to that commitment the proposed studies will involve a greater emphasis on lens damage from 450 MeV/amu iron (56Fe) ions. Inasmuch as 250 kVp X-rays will serve as the reference radiation throughout the studies the investigations will Press SPACE for more, q to quit compliment previous inquiries into X-ray cataractogenesis. Following irradiation, rats will be followed for their lifespans using the Zeiss Scheimpflug

Slit-lamp Imaging System. This will provide, for the first time, an objective, permanent and fully quantifiable record of radiation cataract development and thereby will reduce the ambiguity in the analysis of cataract data generated during this longitudinal study. The investigation will concentrate on the extent and mechanism of the enhancement of cataractogenic potential observed when doses of heavy particles are administered in fractions. The exacerbation of the cataractogenic effect is important, not only from the standpoint of safety, but also because it offers a means to address some fundamental aspects of the response of normal tissues to radiation. We plan to expand our investigations on the cellular basis of radiation cataract development and will concentrate on the target population, the lens epithelium. A number of parameters known to be affected by ionizing radiation will be fully assessed using automated scanning photometry as a function of the dose, time post-irradiation and nature of the radiation. The determinations will include effects of the radiation on the cell cycle, DNA content, cell killing and mutagenesis. These data are critical to press SPACE for more, q to quit an understanding of the mechanism of radiation action on the lens in particular and normal tissue in general. The findings from the proposed studies will contribute greatly to our understanding of cortical cataractogenesis of varying etiologies, including age, and will directly impact the assessment of radiation risk from radiation therapy, occupational exposure and in the space program.

Z01CP05280 BEEBE, G W

CARCINOGENIC EFFECTS OF IONIZING

RADIA-PROJECT NUMBER..... Z01 CP05280-10

INVESTIGATOR NAME/ADDRESS

FY 93

BEEBE, G WIRG/INTRAMURAL UNIT..CEB

NCI, NIH AWARD AMOUNT.....

\$0 PERFORMING ORGANIZATION: TITLE

CARCINOGENIC EFFECTS OF IONIZING RADIATION ABSTRACT: Dr. Miller and Dr. Beebe have for many years been involved in original investigations on the health effects, especially cancer, of the atomic bombing of Hiroshima and Nagasaki in 1945. Dr. Beebe's current research, in association with Dr. Land, includes a study of primary cancer of the liver in A-bomb survivors, stimulated in part by the high incidence of liver cancer from exposure to alpha radiation from Thorotrast, the radiographic contrast medium. For both Dr. Miller and Dr. Beebe the experience of the A-bomb survivors provides a major resource for consultations, lectures, and articles on radiogenic cancer. Dr. Beebe plays a major role in the development of studies of leukemia and thyroid cancer following the Chernobyl accident in Ukraine in 1986. The Chernobyl press SPACE for more, q to quit studies are directed by Dr. Wachholz, Chief, Radiation Effects Branch. Scientific issues of current interest include: the basis for individual sensitivity to the carcinogenic effect of radiation, the effect of radioiodine exposure on thyroid cancer in children, the contrast between high- and low-linear-energy-transfer (LET) radiation as to their induction of liver cancer, the possible interaction between radiation and hepatitis viruses in producing liver cancer, time-response characteristics of radiogenic cancers, and the influence of dose-rate and dose-fractionation on dose-response characteristics. Dr. Beebe serves as the Departmental Representative on the Science Panel of the Committee on Interagency Radiation Research and Policy Coordination (under the Federal Coordinating Council on Science, Engineering, and Technology, or FCCSET) and has been especially concerned in the effort to reach a Federal consensus on risk estimates for radiogenic cancer. He has also urged that contingency plans be made for research to be carried out in the event of a nuclear disaster in the US.

R37CA21518 SCHNEIDER, ARTHUR B RADIATION INDUCED THYROID CANCER-PROJECT
NUMBER.....5 R37 CA21518-18 INVESTIGATOR NAME/ADDRESS
FY 93 SCHNEIDER, ARTHUR BIRG/INTRAMURAL UNIT..END
HUMANA HOSPITAL - MICHAEL REESAWARD AMOUNT..... \$205,006
2929 S ELLIS AVENUE CHICAGO, IL
60616-3390PERFORMING ORGANIZATION: HUMANA HOSPITAL-MICHAEL REESE
TITLE RADIATION
INDUCED THYROID CANCER ABSTRACT: The major objective of this research proposal is to
study radiation-induced thyroid cancer by coordinated clinical and laboratory
investigations. The clinical studies are designed to determine the continuing
incidence of radiation-induced thyroid cancer and to evaluate methods of diagnosis
and medical and surgical approaches to treatment. This will be accomplished
by continuing the longitudinal study of patients who received childhood head and neck
irradiation for benign conditions at Michael Reese Hospital. Of the 5,300 patients
who were so treated, 2,000 have been examined in our program and another 1,400 have
been evaluated elsewhere. In this population there is a 36% cumulative prevalence of
thyroid nodules and among those who have had surgery, 36% have had thyroid cancer.
The follow-up of these patients will continue with the following aims: (1) to determine if
radiation-induced thyroid cancer is continuing to occur and, if so, to provide an
estimate of its incidence, (2) since the patients in this population are growing
older, to determine if their radiation-induced thyroid cancers have the same
age-dependent worsening prognosis as seen in the general population, and (3) to
evaluate the treatment methods that have been used. Together these will provide the
information to develop guidelines for the care of persons with a history of
radiation. Our parallel studies will continue on other radiation-induced tumors
which have been found, including those of salivary, neural, and parathyroid
origin. Specific organ doses, as opposed to treatment doses, will be determined
to obtain more precise dose-response curves and risk assessments. Studies
to determine whether there are susceptibility factors for developing radiation-related
neoplasms, especially familial ones, will be extended. Laboratory studies will focus
on the role of serum thyroglobulin in the diagnosis of thyroid tumors. A subgroup of
patients whose clinical evaluations, including thyroid scans, were normal, but who
had elevated serum thyroglobulin levels has been identified. In continuing the
follow-up of these patients and a control group of patients we will determine
the significance of the abnormal determination as a risk factor. This follow-up will
also provide an opportunity to compare scans with ultrasound examinations of the
thyroid. Factors contributing to the heterogeneity of the thyroglobulin molecule,
with relation to thyroid neoplasms, will be studied.

N01CP15673 MANDEL, JACK S CANCER RISK IN X-RAY
TECHNOLOGISTS--SE-PROJECT NUMBER.....5 N01 CP15673-02 INVESTIGATOR
NAME/ADDRESS FY 93 MANDEL, JACK
SIRG/INTRAMURAL UNIT..AWARD AMOUNT..... \$0 PERFORMING ORGANIZATION:
UNIVERSITY OF MINNESOTA TWIN CITIES
TITLE CANCER RISK IN X-RAY
TECHNOLOGISTS--SECOND SURVEY FOR INCIDENCE ABSTRACT: The University of Minnesota has
been under contract to the National Cancer Institute in evaluating the health of
workers certified by the American Registry of Radiologic Technologists (ARRT) since
February 1982. A 16-page optical scan questionnaire was sent to participants to

obtain information on cancer history, risk factors, work history, and personal medical x-ray exposures. Over 90,000 of the 145,000 technologists under study responded to the full-length questionnaire. An additional 14,000 technologists provided information on their history of cancer, myocardial infarction, and thyroid conditions during an abbreviated telephone interview. Reported leukemias and cancers of the breast, thyroid, and lung were validated by obtaining hospital, pathology, and other reports. Computer linkage with Press SPACE for more, q to quit the records of the nation's largest commercial dosimetry company has Press SPACE for more, q to quit provided at least partial exposure histories on over 85,000 technologists. Press SPACE for more, q to quit Additionally, specific exposure information was obtained from employers for persons who developed leukemia, or cancer of the breast, thyroid, or lung as well as for a random sample of the entire cohort. This second survey is being undertaken to obtain detailed information on cancer incidence during the years since the first questionnaire. Occupational and personal exposures to diagnostic x-rays are already coded and crude estimates of whole-body radiation doses can be made. A second follow-up will enable us to link the occurrence of subsequent cancer with these previous measures of radiation exposure. Incident cancers of the breast and thyroid are of particular interest because mortality data are incomplete.

N01CP21151 GOLDMAN, MARLENE B CANCER FOLLOWING LONG-TERM EXPOSURE
 TO-PROJECT NUMBER.....5 N01 CP21151-01 INVESTIGATOR NAME/ADDRESS
 FY 93 GOLDMAN, MARLENE BIRG/INTRAMURAL UNIT..AWARD
 AMOUNT..... \$0 PERFORMING ORGANIZATION: HARVARD UNIVERSITY TITLE CANCER
 FOLLOWING LONG-TERM EXPOSURE TO RADIOACTIVE THOROTRAST ABSTRACT: The objectives of
 this contract are: (1) to determine the risk of various malignancies in patients
 chronically exposed to internal alpha particle emitters; (2) to characterize the
 pattern of risk over time; (3) to refine dosimetry for increased precision in the
 determination of radiation risk estimates; and (4) to apply various biochemical
 measures of radiation dose to learn whether a correlation exists between these
 measures of molecular damage and the estimated amount of Thorotrast exposure.

N01CP21152 STORM, HANS H CANCER FOLLOWING LONG-TERM EXPOSURE
 TO-PROJECT NUMBER.....5 N01 CP21152-01 INVESTIGATOR NAME/ADDRESS
 FY 93 STORM, HANS HIRG/INTRAMURAL UNIT..AWARD
 AMOUNT..... \$0 PERFORMING ORGANIZATION: DANISH CANCER SOCIETY TITLE
 CANCER FOLLOWING LONG-TERM EXPOSURE TO RADIOACTIVE THOROTRAST ABSTRACT: The
 objectives of this contract are: (1) to determine the risk of various malignancies
 in patients chronically exposed to internal alpha particle emitters; (2) to
 characterize the pattern of risk over time; (3) to refine dosimetry for increased
 precision in the determination of radiation risk estimates; (4) to apply various
 biochemical measures of radiation dose to learn whether a correlation exists between
 these measures of molecular damage and the estimated amount of Thorotrast exposure;
 and (5) to obtain lung tissue to characterize p53 and possibly other mutations. CRIS

P30ES00002 LIBER, HOWARD OCCUPATIONAL AND ENVIRONMENTAL
 HEALTH-PROJECT NUMBER.....2 P30 ES00002-31UB: 0014 INVESTIGATOR NAME/ADDRESS
 FY 93 LIBER, HOWARD IIRG/INTRAMURAL UNIT..EHS
 HARVARD UNIVERSITY AWARD AMOUNT..... \$227,969 665
 HUNTINGTON AVENUE BOSTON, MA

02115PERFORMING ORGANIZATION: HARVARD UNIVERSITY TITLE OCCUPATIONAL AND ENVIRONMENTAL HEALTH CENTER SUB TITLE RADIOBIOLOGY AND EXPERIMENTAL CARCINOGENESIS ABSTRACT: SUBPROJECT ABSTRACT NOT AVAILABLE. PARENT ABSTRACT: This Center Grant research and research training program is concerned with the effects of physical and chemical factors in the environment on biologic systems, with particular emphasis on the health of man. Biologic effects include alteration of function, as well as initiation or aggravation of illness, disability and premature death. Although no disease or effect is excluded from consideration, primary interest focuses on cancer, chronic lung disease of specific or non-specific type, press SPACE for more, q to quit etiology, and effects on reproductive systems. The general approaches employed in these studies are toxicologic and epidemiologic. Toxicologic approaches include a variety of molecular, biochemical and physiologic methods applied to biologic systems ranging from cells to whole organisms. Epidemiologic methods also cover a wide range, from field studies to analyses of vital records and case-control studies. Environmental factors under study include (a) occupational hazards, with specific interest in carcinogens and pulmonary pathogenic substances, (b) indoor and outdoor air pollution, (c) cigarette smoking (which complicates all studies of chronic disease), (d) radiation, with particular interest in low level effects and mechanisms of radiation carcinogenesis and mutagenesis, and (e) metals, chlorinated aromatic compounds and other chemicals of public health concern in industry or the general environment.

 Z01CP04481 BOICE, J D STUDIES OF RADIATION-INDUCED CANCER-PROJECT
 NUMBER.....1 Z01 CP04481-17 INVESTIGATOR NAME/ADDRESS
 FY 93 BOICE, J DIRG/INTRAMURAL UNIT..REB
 NCI, NIH AWARD AMOUNT..... \$0 PERFORMING ORGANIZATION: TITLE STUDIES OF
 RADIATION-INDUCED CANCER ABSTRACT: Populations irradiated in the course of medical, occupational, environmental, or military circumstances are being studied to quantify cancer risks and to learn more about carcinogenic mechanisms. When possible, laboratory studies are incorporated into epidemiologic investigations. Staff members serve on committees advising the government and international agencies. Recent findings indicate that (1) systemic chemotherapy combined with radiotherapy greatly enhances the risk of leukemia in women treated for breast cancer; (2) radiotherapy for breast cancer also increases the risk of cancer in the opposite breast, but only among women under the age of 45; press SPACE for more, q to quit when treated; (3) radiotherapy for peptic ulcer increases the risk of stomach cancer, which is further increased after surgical treatment; (4) adult survivors of childhood retinoblastoma continue to be at high risk for developing a second cancer; radiotherapy enhances the genetic susceptibility for osteosarcoma; (5) high doses at high dose rates are less leukemogenic than low doses at low dose rates among women treated for cancer of the endometrium; (6) diagnostic doses of radioactive iodine did not increase the risk of thyroid cancer, suggesting that protraction of dose reduces risk; (7) twins are at significantly low risk of developing childhood cancer than single births despite being exposed more frequently to prenatal x-rays; (8) indoor exposure to radon appears less hazardous than previously thought; (9) the risk of lung cancer among underground miners increases with cumulative exposure to radon and decreases with attained age and time since exposure; (10) among A-bomb survivors, early age at first time pregnancy protected against radiation-induced breast cancer; (11) radiation-induced thyroid cancer is not apparent among those exposed after age 20;

(12) non-melanoma skin and liver cancers were linked to A-bomb irradiation for the first time; (13) in both A-bomb survivors and uranium miners, radiation-induced lung cancers tend to be of the small-cell subtype.

R35CA47542 LITTLE, JOHN B EFFECTS OF ⁶⁰CO RADIATION ON MAMMALIAN
CELL-PROJECT NUMBER.....5 R35 CA47542-06 INVESTIGATOR NAME/ADDRESS
FY 93 LITTLE, JOHN BIRG/INTRAMURAL UNIT..SRC
HARVARD SCHOOL OF PUBLIC HEALTH AWARD AMOUNT..... \$779,730
665 HUNTINGTON AVENUE BOSTON, MA

PERFORMING ORGANIZATION: HARVARD UNIVERSITY TITLE EFFECTS OF
⁶⁰CO RADIATION ON MAMMALIAN CELLS ABSTRACT: The long term goal of this research program is to gain knowledge concerning the mechanisms involved in the response of mammalian cells to ⁶⁰Co radiation, with particular reference to its carcinogenic and mutagenic effects. The approach is a multi-faceted one, and the endpoints under investigation include mutagenesis, malignant transformation, cell survival and the induction of chromosomal abnormalities. The program has a dual purpose: first, to better define the risks of low-level ⁶⁰Co radiation exposure by examining the role of factors such as total dose, dose-rate, LET and the intracellular distribution of dose on the frequency of mutagenesis and transformation; and second, to learn more about the cellular and molecular mechanisms for these effects. The specific aims are: 1) To identify oncogenes activated during the process of malignant transformation by ⁶⁰Co radiation. Transfection of DNA into NIH 3T3 cells will be carried out at regular intervals after irradiation of 10 T1/2 cell cultures; DNA from primary and secondary transfectants will be examined by Southern blotting and reactivity to specific monoclonal antibodies. 2) To examine the direct mutagenic effects of various types of ionizing ⁶⁰Co radiation on the c-Ha-ras proto-oncogene by transfection of the irradiated gene in a plasmid vector. 3) To examine factors involved in the morphological transformation and immortalization of human diploid fibroblasts. A particular focus will be on the study of a DNA fragment derived from the second intron of c-myc which induces specific morphologic alterations in a strain of partially transformed cells. We propose to identify this presumptive regulatory element by deletion analysis and sequencing, and further study its role in transformation. 4) To analyze the molecular structure of spontaneous and induced mutations at the autosomal tk locus in the TK6 human cell line. Appropriate probes will be obtained and restriction fragment or sequence polymorphic markers sought. Molecular biological techniques will be employed in order to determine whether the large-scale changes we have observed involve gene conversion, mitotic recombination or multi-locus deletion events and to estimate their extent. 5) To carry out cytogenetic analysis of mutant clones in order to determine whether large scale DNA structural changes are associated with visible chromosomal abnormalities. Results will be correlated with those of dosage blots. 6) To analyze the spectrum of molecular structural changes induced by different types of ⁶⁰Co radiation including fast neutrons, heavy ions and Auger emitting radionuclides. 7) To continue studies of the relative biological effectiveness for transformation and mutagenesis of low dose, low dose-rate neutron exposure. 8) To investigate the role of microdistribution of dose of high LET ⁶⁰Co radiation within the cell on its biologic effects by use of Auger electron emitting radionuclides. Emphasis will be on mutagenesis in human TK6 cells.

R01FD01085 SINOLAIR, WARREN K ^[[7mRADIATION^[m EFFECTS AND EXPOSURE
 CRITER-PROJECT NUMBER.....5 R01 FD01085-14 INVESTIGATOR NAME/ADDRESS
 FY 93 SINOLAIR, WARREN KIRG/INTRAMURAL UNIT..RAD
 NATIONAL COUNCIL ON ^[[7mRADIATION^[mAWARD AMOUNT.....
 \$50,000 7910 WOODMONT AVENUE

BETHEDA, MD 20814PERFORMING ORGANIZATION: NATIONAL COUNCIL ON RAD PROT &
 MEASUREMSTITLE ^[[7mRADIATION^[m EFFECTS AND EXPOSURE CRITERIA ABSTRACT: The
 National Council on ^[[7mRadiation^[m Protection and Measurements (NCRP) seeksto
 collect, analyze, develop and disseminate information andrecommendations on
 ^[[7mradiation^[m protection and measurement. Afteridentification of an area in
 which the development of NCRP recommendationswould constitute a significant
 contribution, the Council initiates researchaimed at (1) assessment of the available
 information that is pertinent tothe problem, (2) identification of areas where more
 information is needed,and (3) synthesis of the present knowledge relevant to the
 problem areaPress SPACE for more, q to quitinto practical recommendations on
 ^[[7mradiation^[m protection and measurementswhich also highlight areas in need of
 further study. The proposed research is aimed at the development of NCRP reports on
 thefollowing topics: (1) basic ^[[7mradiation^[m protection criteria, (2)
 ^[[7mradiation^[mprotection in dental offices, (3) biological aspects of
 ^[[7mradiation^[mprotection criteria, (4) ALARA for occupationally exposed
 individuals inclinical radiology, (5) calibration of survey instrumentation,
 (6)^[7mradiation^[m protection for allied health personnel, (7) emergency
 planning,(8) exposure criteria for ultrasound, (9) biological effects of
 magneticfields, (10) occupational exposure resulting from diagnostic nuclearmedicine
 procedures, (11) practical guidance on the evaluation of humanexposures to
 radiofrequency ^[[7mradiation^[m, (12) extremely low frequencyelectric and magnetic
 fields, (13) ^[[7mradiation^[m biology of the skin (beta raydosimetry), (14)
 assessment of exposures from therapy, and (15) comparativerisk as a basis for
 exposure standards.

Z01CP04481 BOICE, J D STUDIES OF ^[[7mRADIATION^[m-INDUCED
 CANCER-PROJECT NUMBER.....1 Z01 CP04481-17 INVESTIGATOR NAME/ADDRESS
 FY 93 BOICE, J DIRG/INTRAMURAL UNIT..REB
 NCI, NIHAWARD AMOUNT..... \$0 PERFORMING ORGANIZATION:TITLE
 STUDIES OF ^[[7mRADIATION^[m-INDUCED CANCER ABSTRACT: Populations irradiated in the
 course of medical, occupational,environmental, or military circumstances are being
 studied to quantifycancer risks and to learn more about carcinogenic mechanisms.
 Whenpossible, laboratory studies are incorporated into epidemiologicinvestigations.
 Staff members serve on committees advising the governmentand international agencies.
 Recent findings indicate that (1) systemic chemotherapy combined withradiotherapy
 greatly enhances the risk of leukemia in women treated forbreast cancer; (2)
 radiotherapy for breast cancer also increases the riskPress SPACE for more, q to
 quitof cancer in the opposite breast, but only among women under the age of 45when
 treated; (3) radiotherapy for peptic ulcer increases the risk ofstomach cancer,
 which is further increased after surgical treatment; (4)adult survivors of childhood
 retinoblastoma continue to be at high riskfor developing a second cancer;
 radiotherapy enhances the geneticsusceptibility for osteosarcoma; (5) high doses at
 high dose rates areless leukemogenic than low doses at low dose rates among women
 treated forcancer of the endometrium; (6) diagnostic doses of radioactive iodine

did not increase the risk of thyroid cancer, suggesting that protraction of dose reduces risk; (7) twins are at significantly low risk of developing childhood cancer than single births despite being exposed more frequently to prenatal x-rays; (8) indoor exposure to radon appears less hazardous than previously thought; (9) the risk of lung cancer among underground miners increases with cumulative exposure to radon and decreases with attained age and time since exposure; (10) among A-bomb survivors, early age at first time pregnancy protected against ¹³¹I-radiation-induced breast cancer; (11) ¹³¹I-radiation-induced thyroid cancer is not apparent among those exposed after age 20; (12) non-melanoma skin and liver cancers were linked to A-bomb ¹³¹I-radiation for the first time; (13) in both A-bomb survivors and uranium miners, ¹³¹I-radiation-induced lung cancers tend to be of the small-cell subtype.

N01CP33013 WILSON, DANIEL SUPPORT SERVICES FOR
¹³¹I-RADIATION-RELATED-PROJECT NUMBER.....3 N01 CP33013-02
 INVESTIGATOR NAME/ADDRESS FY 94 WILSON,
 DANIEL IIRG/INTRAMURAL UNIT..AWARD AMOUNT..... \$0 PERFORMING ORGANIZATION:
 WESTAT, INC. TITLE SUPPORT SERVICES FOR ¹³¹I-RADIATION-RELATED STUDIES
 ABSTRACT: This contract establishes a mechanism to provide all of the support services required to conduct a wide variety of field studies. While the scientific direction and overall supervision for all projects is the responsibility of the professional staff of the Branch, support services provided by the contract include the development of liaison with organizations and individuals at a local or international level whose cooperation is needed for the conduct of a study; the design and development of forms required to conduct field investigations (interview forms, record-abstracting forms, interviewer manuals, etc.); the hiring, training, and supervision of technical personnel (interviewers, record Press SPACE for more, q to quit abstractors, and persons to collect biological specimens); the actual collection of the required data; and the data reduction activities involved in field investigations (e.g., coding, keying, editing, and a variety of data processing activities). The contractor also must provide field supervision and develop quality control mechanisms to ensure the quality of the activities as well as the maintenance of control of all aspects of every study by the appropriate Branch investigators.

Z01DK52017 ROBBINS, J STUDIES OF THYROID DISEASES-PROJECT
 NUMBER..... Z01 DK52017-02 INVESTIGATOR NAME/ADDRESS
 FY 93 ROBBINS, J IIRG/INTRAMURAL UNIT..GBB
 NIDDK, NIH AWARD AMOUNT..... \$0 PERFORMING ORGANIZATION: TITLE STUDIES
 OF THYROID DISEASES ABSTRACT: Recruitment of high risk thyroid cancer patients for combination therapy with I-131 and low dose doxorubicin has been discontinued because the number of referrals has been insufficient to evaluate therapeutic effectiveness. Combined therapy is continuing, however, with 8 patients randomized to this treatment arm and toxicity will be evaluated and compared with controls who received I-131 alone. The toxicity data will be important for therapy recommendations. The phase I/II study of recombinant human TSH in recently operated thyroid cancer patients has been completed and the results are being evaluated. Because of encouraging initial results a phase III study is now underway Press SPACE for more, q to quit with patients in varying stages of their disease. This multi-institutional Press SPACE for more, q to quit study is in collaboration with Bruce Weintraub and the Genzyme

Corporation, and is expected to improve testing for residual or recurrent thyroid cancer. In conjunction with development of epidemiological studies to evaluate the apparent increased incidence of thyroid cancer in children affected by the nuclear power plant accident in ^[[7mChernobyl^[[m, a workshop was held to evaluate some clinical management problems that ensued. It was concluded that the aggressive behavior of the disease in these children is characteristic of thyroid cancer in this age group and not a result of radiation. It was also concluded that potential preventive therapy with L-thyroxine on a broad scale is not indicated at this time.

P01CA59431 JENSEN, RONALD H RADIATION GENOTOXICITY FROM THE
 CHERNO-PROJECT NUMBER.....5 P01 CA59431-02 INVESTIGATOR NAME/ADDRESS
 FY 93 JENSEN, RONALD HIRG/INTRAMURAL UNIT..SRC
 UNIVERSITY OF CALIFORNIA AWARD AMOUNT..... \$1,171,158
 MISSION CTR BLDG, ROOM 230 SAN

FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA SAN
 FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE ^[[7mCHERNOBYL^[[m ACCIDENT
 ABSTRACT: The goal of this program project is to determine whether several newly developed molecular and cellular analytical procedures can be used to measure effects of ionizing radiation on humans. We also will test whether a combination of these measurements made on each individual can provide a set of data that can be used to estimate: (1) the radiation dose received by that individual, (2) his susceptibility to radiation-induced genotoxicity, (3) the relative risk of induced health effects (e.g., cancer) in the exposed individual and/or birth defects in his progeny. Press SPACE for more, q to quit Our method for accomplishing these goals is to simultaneously obtain genotoxicity measurements using four different analytical techniques on blood samples from approximately 800 individuals including people who were exposed to ionizing radiation as a result of the accident at the nuclear power plant in ^[[7mChernobyl^[[m, Ukraine in April-May 1986 and their progeny. Each project in this program project is designed to provide a detailed study of one type of genotoxicity measure: 1. cytogenetics, 2. somatic mutations in the glycophorin A locus, 3. somatic mutations in the hypoxanthine-guanine phosphoribosyl transferase (HPRT) locus, 4. germinal mutations. Cytogenetics is the classical measure of radiation exposure and provides a base line for comparison of other analyses. In addition, a newly developed fluorescence in situ DNA hybridization cytogenetic technique will be tested for applicability. The glycophorin A-based genotoxicity assay has been shown to be a monitor of persistent radiation effects on humans and the kinetics of the response as well as the sensitivity of the assay will be tested. HPRT assay has been applied to several cohorts of radiation exposed people and serves as a clonogenic analysis of somatic mutation effects. The character and persistence of genomic changes that occur in the HPRT locus with human radiation exposure also will be determined. The germinal changes that occur in the HPRT locus with human radiation exposure also will be determined. the germinal mutation study is the first DNA-based analysis to be applied in humans and Press SPACE for more, q to quit can provide an insight into possible genetic consequences of human radiation exposure. Data from the four areas of research will be used in two ways. For each individual assay of somatic cells, a dose-response from ionizing radiation will be generated by comparing the analytical results with physical dosimetry and with immediate biological dosimetry that was

performed by the Soviet medical scientists in 1986 shortly after the
 ^[[7mChernobyl^[m accident. This should provide a means for interpreting each of the
 bioassays for its capabilities as a monitoring biodosimeter for similar radiation
 exposures (both sensitivity and precision will be determined). In addition,
 the combination of measurements from the four different research areas will allow an
 overall effect of exposure of each individual to be determined. A weighted sum of
 these effects will be derived, and in the future this may serve as an individual
 dosimeter for dose, an indicator for higher susceptibility to damage, and an
 estimator for that individual's risk to develop cancer.

-----P01CA59431 TUCKER, JAMES D RADIATION GENOTOXICITY FROM THE
 CHERNO-PROJECT NUMBER.....5 P01 CA59431-02UB: 0001 INVESTIGATOR NAME/ADDRESS
 FY 93 TUCKER, JAMES DIRG/INTRAMURAL UNIT..SRC
 UNIVERSITY OF CALIFORNIA AWARD AMOUNT..... \$234,232
 MISSION CTR BLDG, ROOM 230 SAN
 FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA SAN
 FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE ^[[7mCHERNOBYL^[m ACCIDENT SUB
 TITLE CYTOGENETIC ANALYSIS OF ^[[7mCHERNOBYL^[m VICTIMS ABSTRACT: This project
 seeks to utilize state-of-the-art molecular cytogenetic techniques to determine the
 frequency and persistence of stable cytogenetic damage in peripheral T lymphocytes of
 victims of the ^[[7mChernobyl^[m nuclear reactor accident. The subjects involved in
 this study fall into two groups: those who received high whole-body doses (ranging
 from ~0.8 to ~6Gy), and those who were exposed more slowly (over a period of one or
 a few days) and received ~0.25 Gy. Fluorescence in situ hybridization
 of chromosome-specific composite DNA probes ("chromosome painting") will be used to
 measure the frequency of stable chromosome aberrations, i.e. translocations. These
 results will be validated against the conventional Press SPACE for more, q to
 quit method of G-banding. In a cross-sectional component of this study, 60 people
 whose exposures range from 0 (matched controls) to the highest surviving doses will
 be examined. Accurate exposure estimates will be made and used as a benchmark
 against which the results of the glycophorin A, HPRT, and germinal mutation portions
 of this Program Project will be compared. The dosimetry will also be used to guide
 the selection of subjects for a longitudinal component of this study. Here, 16
 subjects whose span the dose range will be examined for five consecutive years.
 The proposed work will lead to a greatly improved understanding of the
 temporal stability of various cytogenetic anomalies (particularly translocations), the
 extent of clonal expansion following radiation exposure, the effects of dose on
 translocation stability and clonal expansion, and the utility of chromosome painting
 as a reliable and effective biodosimeter following accidental radiation exposure. In
 conjunction with the GPA, HPRT, and germinal mutation efforts of this Program
 Project, this work will lead to a greatly increased understanding of the long-term
 effects of human exposure to ionizing radiation.

P01CA59431 JONES, IRENE M RADIATION GENOTOXICITY FROM THE
 CHERNO-PROJECT NUMBER.....5 P01 CA59431-02UB: 0003 INVESTIGATOR NAME/ADDRESS
 FY 93 JONES, IRENE MIRG/INTRAMURAL UNIT..SRC
 UNIVERSITY OF CALIFORNIA AWARD AMOUNT..... \$234,232
 MISSION CTR BLDG, ROOM 230 SAN
 FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA SAN
 FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE ^[[7mCHERNOBYL^[m ACCIDENT SUB

TITLE SOMATIC HPRT GENE MUTATIONS IN RADIATION-EXPOSED WORKERS ABSTRACT: Although it is well established that radiation is a mutagen, more information is needed on the consequences of radiation exposure for specific genetic loci in somatic cells of man, and of the variables that may affect these consequences. Central to evaluation of these consequences is the ability to measure genetic damage. Assessment of a variety of types of genetic damage is needed to ensure that both the quantity and character of damage are ascertained. The objective of this project is to evaluate the biosimetric information that analysis of mutations of the hypoxanthine phosphoribosyltransferase (HPRT) gene of human peripheral blood lymphocytes can provide for individuals that were exposed to radiation as a consequence of the Chernobyl nuclear power accident. The frequency of mutation will be assessed by the established in vitro limiting dilution assay of thioguanine-resistant, HPRT-deficient T lymphocytes. The molecular nature of mutations present will be assessed using genomic DNA of mutant clones. Gross alterations of the HPRT gene will be detected by Southern analysis of restriction enzyme digested genomic DNA. The extent of deletion of sequences that flank the HPRT gene on the X chromosome will also be determined. Smaller deletion and insertion events that affect the exons of the HPRT gene will be detected with a multiplex polymerase chain reaction (PCR) analysis; PCR analysis will also confirm the identity of exons affected by gross deletions. These molecular analyses will be applied to multiple mutants per individual for selected subsets of the population to study both interindividual differences in mutation spectra and correlations of the molecular nature of mutation with mutation frequency and exposure history. The molecular analyses will also be applied in a cross sectional mode to one mutant of each member of a larger population to assess whether bias is introduced by studying smaller groups of individuals in detail. The stability over time of the frequency and molecular nature of damage at this genetic locus in lymphocytes will be determined for subsets of the population. By studying individuals who received different doses of radiation following the Chernobyl accident, the relationship between exposure history and mutational responses at the HPRT gene will be determined. In combination with the biosimetry data acquired from the other projects of this Program, these results will advance efforts to assess human risk for somatic and germinal mutation following exposure to mutagenic agents.

P01CA59431 LANGLOIS, RICHARD G RADIATION GENOTOXICITY FROM THE
 CHERNO-PROJECT NUMBER.....5 P01 CA59431-02UB: 0002 INVESTIGATOR NAME/ADDRESS
 FY 93 LANGLOIS, RICHARD GIRG/INTRAMURAL UNIT..SRC
 UNIVERSITY OF CALIFORNIA AWARD AMOUNT..... \$234,232
 MISSION CTR BLDG, ROOM 230 SAN
 FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA SAN
 FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE Chernobyl Accident SUB
 TITLE SOMATIC MUTATIONS AT THE GLYCOPHORIN A LOCUS IN RADIATION EXPOSED IN ABSTRACT:
 There are two primary objectives for the glycophorin A-based somatic mutation
 analysis project. The first objective is to determine the magnitude and types of
 somatic mutational damage in individuals due to radiation exposure from the
 Chernobyl nuclear power accident as measured by the glycophorin A (GPA)
 assay. Analysis will be performed on samples from individuals with both high- and
 moderate-dose exposures, and will include measurements of the frequency of both
 hemizygous and homozygous variant erythrocytes. Measurements of the
 frequencies of somatic cell mutations at the GPA locus will be correlated with

different indicators of genetic damage from other programs in the program project to provide a comprehensive analysis of genetic damage in these individuals. The second objective is to determine the utility of the GPA assay as a biodosimeter for large population studies of individuals where physical dosimetry information is not available. Measurements of the dose-response relationship, the minimum detectable dose, and the persistence of induced damage will be used to determine the utility of the GPA assay for dose assessment. Results from the GPA assay will be compared with the results from other biodosimeters in the program project to determine the relative sensitivity, cost, and reliability of the different methods.

P01CA59431 MOHRENWEISER, HARVEY W RADIATION GENOTOXICITY FROM THE
 CHERNO-PROJECT NUMBER.....5 P01 CA59431-02UB: 0004 INVESTIGATOR NAME/ADDRESS
 FY 93 MOHRENWEISER, HARVEY WIRG/INTRAMURAL
 UNIT..SRC UNIVERSITY OF CALIFORNIA AWARD AMOUNT.....
 \$234,232 MISSION CTR BLDG, ROOM 230

SAN FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF
 CALIFORNIA SAN FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE ^[[7mCHERNOBYL^[[m
 ACCIDENT SUB TITLE GERMINAL MUTATION RATE IN RADIATION EXPOSED WORKERS ABSTRACT:
 Significant concern continues to be expressed by both the government and the public
 regarding the potential of genotoxic agents to increase the germinal mutation rate
 and, therefore, the incidence of genetic disease in humans. Current estimates of the
 potential human health risk from gene mutations caused by exposure to mutagenic
 agents are derived from animal data generated following exposure to high doses of
 suspected mutagen. Animal data are used because it has not been possible to obtain
 sufficient data from humans. Molecular techniques for the study of gene structure
 have potential for Press SPACE for more, q to quit generating significant quantities
 of data from a mother/father/child triad. These approaches are being developed as
 tools for estimating the heritable mutation rate in human populations. This project
 will focus on determining the mutation rate for insertion, deletion and/or
 rearrangement mutations, the molecular lesions expected to be most the frequent class
 of event in offspring of radiation exposed individuals. A
 restriction-enzyme-site-mapping strategy will be employed to screen approximately
 1000 loci in each triad. The 750 offspring to be studied will have been born to
 individuals exposed to significant levels of radiation during the cleanup at
 ^[[7mChernobyl^[[m. The triads will focus on fathers receiving high doses (>0.25Sv)
 during short time periods, the group expected to have the highest mutation
 rate. Appropriate control triads will also be screened. The technology employed in
 this study will be transferred to our Soviet collaborators for inclusion into future
 studies in the continuing monitoring of this population. Thus, this study, which
 will generate a data base of 750,000 locus tests, should be viewed as an initial
 pilot study in a longer term effort. The study of germinal gene mutations in humans
 addresses one of the significant issues for man, namely, the component of the genetic
 burden and health risk transmitted to future generations that is caused by exposure
 to mutagenic agents. This integrated program of 4 projects will be a model Press
 SPACE for more, q to quit for future efforts to estimate human risk, using approaches
 that combine measures of human exposure with the results of predictive tests in
 model systems to estimate potential increases in human mutation rates and subsequent
 genetic disease.

R01CA56383 TURKER, MITCHELL S THE SPECTRUM OF MUTATION INDUCED BY

IO-PROJECT NUMBER.....5 R01 CA56383-02

INVESTIGATOR NAME/ADDRESS

FY 93 TURKER, MITCHELL SIRG/INTRAMURAL UNIT..SRC

UNIV OF KENTUCKY AWARD AMOUNT..... \$136,320

MARKEY CANCER CENTER

LEXINGTON, KY

40536 PERFORMING ORGANIZATION: UNIVERSITY OF KENTUCKY TITLE THE SPECTRUM OF MUTATION

INDUCED BY IONIZING RADIATION ABSTRACT: One of the prices we pay for living in an industrial and technological society is exposure to a variety of chemical and radiation mutagens. Examples of this exposure are contaminating levels of Cs-137 remaining from the ^[[7m Chernobyl ^[[m disaster and increased exposure to UV due to thinning of the ozone layer. Both events are expected to result in increased numbers of cancers. Although it is possible to readily detect this exposure if it occurs at high dose, it is far more difficult to detect this exposure if it occurs at low dose or if the possibility of exposure is raised after it has occurred. One potential means of addressing this problem is to determine the spectrum of mutations induced by a specific mutagen and then determine Press SPACE for more, q to quit if this spectrum is present in genomic DNA in cells taken from individuals at risk. This grant proposal involves using a cultured mouse stem cell system to determine more accurately the spectrum of mutation induced by ionizing radiation. The first specific aim is to determine the mutational spectrum induced by high dose high and low LET ionizing radiation and compare and contrast this spectrum with those spectra produced by equally genotoxic doses of UV and an alkylating chemical mutagen, as well as with the spontaneous spectrum. Having defined the ionizing radiation spectrum, the second specific aim is to determine the lowest possible dose at which all or part of this spectrum can be recognized. The third and final specific aim is to determine if the ionizing radiation induced mutational spectrum is altered in morphologically differentiated cells derived from the stem cells. Such a comparison has not been performed previously. The mouse cell lines to be used are unique because they have heterozygous deficiencies for the purine salvage gene aprt (adenine phosphoribosyltransferase) and because they contain two chromosome 8 homologs, which harbor the aprt gene, that are distinguishable with a molecular analysis. Cells with homozygous deficiencies, which will be induced with the above mutagens, will be selected and a molecular analysis used to elucidate and enumerate the spectrum of mutations. This molecular analysis will include Southern blots, PCR, and DNA sequencing.

P01CA59431 JENSEN, RONALD H

RADIATION GENOTOXICITY FROM THE

CHERNO-PROJECT NUMBER.....5 P01 CA59431-02 UB: 9001 INVESTIGATOR NAME/ADDRESS

FY 93 JENSEN, RONALD HIRG/INTRAMURAL UNIT..SRC

UNIVERSITY OF CALIFORNIA AWARD AMOUNT..... \$234,232

MISSION CTR BLDG, ROOM 230

SAN

FRANCISCO, CA 94143-0808 PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA SAN

FRANCISCO TITLE RADIATION GENOTOXICITY FROM THE ^[[7m CHERNOBYL ^[[m ACCIDENT SUB

TITLE CORE--BIostatistics ABSTRACT: The biostatistics component will provide the capabilities for making comparisons of results within each of the projects and provide techniques for comparing results among projects. In addition it will provide a database system for managing the many pieces of information that will be acquired about the sample donors and data which will be generated from the multi-end point sample analyses.

Z01CB08381 LEMKIN, P

COMPUTER AIDED TWO-DIMENSIONAL

ELECTRO-PROJECT NUMBER.....1 Z01 CB08381-10

INVESTIGATOR NAME/ADDRESS

FY 93 LEMKIN, PIRG/INTRAMURAL UNIT..LMMB

NCI, NIHAWARD AMOUNT.....

\$0 PERFORMING ORGANIZATION:TITLE

COMPUTER AIDED TWO-DIMENSIONAL ELECTROPHORETIC GEL ANALYSIS ABSTRACT: Analytic methods are continuing to be developed and applied using the GELLAB-II software system - an exploratory data analysis system for the analysis of sets of 2D electrophoretic gel images. It incorporates sophisticated subsystems for image acquisition, processing, database manipulation, graphics and statistical analysis. It has been applied to a variety of experimental systems in which quantitative and qualitative changes in one or more proteins among hundreds or thousands of unaltered proteins is the basic analytic problem. Keeping track of changes detected using these methods is also a major attribute of the system. A composite gel database may be "viewed" under different exploratory data analysis conditions and statistical differences and subtle patterns elucidated from Press SPACE for more, q to quit "slices" of an effectively 3D database. Results can be presented in a variety of tables, plots or derived images and on workstations over wide area networks. Substantive GELLAB-II applications include: Ongoing studies of cadmium toxicity in urine (Myrick), Rett syndrome (Myrick), Vermont mercury study (Myrick), serum dioxin study (Myrick), fetal alcohol syndrome study (Myrick) - a new study will be neural tube defects (Myrick); 2D DNA gels for identifying differentially expressed genes (Rogan); investigation of radioactive accidents and fall-out from ¹³⁷Cs (Krekling). In a collaboration with Merrill, we are developing a relational 2D gel interactive disease-protein-spot database system for answering queries relating proteins in plasma, serum, urine and CSF as a diagnostic tool. We continue to explore image conferencing of 2D gel images as well as other problem domains using Xconf. GELLAB-II has been exported to and is being supported at: CDC/Atlanta (Myrick), U. Norway (Krekling), Monsanto Research Labs (Leimgrubber et al.). This year, CDC has been the primary Beta test site for GELLAB-II. Additional changes to help continued collaboration with and exporting of enhanced graphical-interface versions of GELLAB has been actively pursued and is the primary activity this year.

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 The National Library of Medicine

(NLM) wishes to provide planning and
 implementation grants to health science institutions that seek
 assistance in integrating their existing scattered databases and
 information systems into a comprehensive networked institutional
 --more-- Press [space] to continue, [q] to quit information management system
 capable of serving clinical, research,
 educational, and administrative needs.

The Integrated Advanced Information Management Systems (IAIMS) program
 described in this Program Announcement (PA) is a substantially revised
 version of the NLMs existing IAIMS program, first announced in 1982.

PROGRAM OBJECTIVES

Background

In 1983 the NLM initiated an award program to provide "assistance to
 medical centers and health science institutions for planning and
 --more-- Press [space] to continue, [q] to quit development projects leading to the
 implementation of Integrated
 Academic Information Management Systems (IAIMS)." The program
 announcement went on to say, "IAIMS are institution-wide computer
 networks that link and relate library systems with individual and
 institutional databases and information files, within and external to
 the institution, for patient care, research, education, and
 administration. The goal is to create an organizational mechanism
 within health institutions to more effectively manage the knowledge of
 medicine, and to provide for a system of comprehensive information
 access."

During the next decade over seventy institutions applied for IAIMS
 grants in one or another of the 3 defined phases, and through FY 1991
 26 awards had been made to 16 institutions. The importance of
 information management today is as great as ever, but the program
 elements as originally defined by NLM deserve re-evaluation. Lessons
 have been learned from a decade of experience; furthermore, the climate
 has changed significantly as a number of institutions made extensive
 investments in information systems in recent years; most importantly,
 the advent of the High Performance Computing and Communications
 --more-- Press [space] to continue, [q] to quit Initiative (HPCC) has dramatically
 enriched the possibilities of
 information transfer, while increasing the complexity of information
 management.

The NLM is the lead biomedical organization in the federal Government's

HPCC initiative. The HPCC program recognizes "that unprecedented computational power and its creative use are needed to investigate and understand a wide range of scientific and engineering 'grand challenge' problems." (1) Some of the problems identified are of obvious interest to biomedicine: National Research and Education Network (NREN), biotechnology, transmission of digital images, intelligent gateways to retrieve information from several life sciences databases, and innovations in educational techniques, among others.

Accordingly, NLM is revising its IAIMS program with:

- o A name change: replacing "academic" with "advanced" recognizes the wide applicability of the IAIMS concept and the need to incorporate new technology
- o Fusion of the old phases II and III (model and implementation) into --more-- Press [space] to continue, [q] to quit one operational phase
- o Changes in the level of support
- o Some modification of the scope and conditions of the grant
- o Incorporation of HPCC into the NLM vision of an integrated information management system.

The Integrated Advanced Information Management Systems (IAIMS) Program

The revised IAIMS program has two phases: A planning phase, and an operational phase.

1. IAIMS Planning Phase

"New" IAIMS planning phase resembles Phase I of the "old" IAIMS. Various models can be used in information systems planning, but all applications should include some form of self-study and allow for certain key elements:

- o A description of the institution's information management resources, current and five-year projection;
--more-- Press [space] to continue, [q] to quit
- o Development of an institutional information policy that addresses both short-term and long-term goals;
- o Identification of leadership for planning;
- o Broad involvement of clinical and basic science faculty, administration, and students;
- o Specification of desired strategic outcomes;
- o An outline of the planning process, including goals and timetables; and
- o A comprehensive view that considers information needs of patient care, research, education, and administration.

The outcome of planning activities is the development of an institutional Information Management Plan, which should include information resources management policies, an analysis of functions and

responsibilities of major information database managers, and a description of how IAIMS will be developed, organized, and managed.

A total separation between planning and operations is not mandated; institutions vary widely in the information system already in place at the time of application. An institution may, if it wishes, use or --more-- Press [space] to continue, [q] to quit introduce some operational elements during this planning period (for example, an E-mail system.)

The IAIMS planning grant may be for up to \$150,000 per year for one to two years. The grant supports direct costs only; funds are not provided for indirect or overhead costs.

2. IAIMS Operational Phase

Health science institutions that complete the IAIMS planning phase successfully (or can demonstrate a comparably sophisticated information management plan based on their own planning efforts) may apply to NLM for an IAIMS operational phase grant to assist them in implementing the plan. Plans will vary for different institutions, but certain key elements are of interest to all:

A. Essential

- o A plan for developing the institution's information management resources, and the requisite networks;
--more-- Press [space] to continue, [q] to quit
- o A functional Information Management Policy;
- o Designation of leadership with appropriate background and status;
- o A plan for supporting IAIMS after termination of the grant;
- o Timetables for reaching key features of the operational plan;
- o Reasonable timetables for major plan features such as development of the network, organization of the management structure, appointment of the leadership, and post-grant financing plans. The ability of funded institutions to reach such milestones in a timely manner will be evaluated by the NLM when deciding annually on continuance of funding;
- o The ability to provide efficiently bibliographic and related literature pertinent to health care delivery and research. Significant participation by the health sciences library is essential; and
- o Substantial incorporation of one or more elements of HPCC/NREN into the institution's information system. Connection to Internet, for example, is one such element; other examples include collaboration through high speed networks, distance learning, addressing of computationally intensive problems in molecular biology in a distributed environment, visualization techniques, and network-based
--more-- Press [space] to continue, [q] to quit digital imaging.

B. Highly Recommended

- o A clear relationship to clinical aspects of the health sciences, such as linkage with a computerized patient record, a hospital information system, clinical alert information/distribution systems, clinically relevant expert systems, and/or systems for monitoring quality of care and cost-control; and
- o Incorporation of current NLM objectives such as, connection to national networks, direct access to Medline and/or extensive use of Grateful Med, outreach components which improve information access for health care workers in underserved rural or inner city locations, and in other health care sites affiliated with the applicant.

C. Optional

- o An apprenticeship in IAIMS may be incorporated into the operational plan at the discretion of the applicant, through a position entitled --more-- Press [space] to continue, [q] to quit IAIMS Assistant. An educational program should be described, outlining the credentials of the candidates, the goals and duration of the apprenticeship, the structure of the learning experience, and other relevant material. Personnel, travel and supply costs may be requested up to a total of \$50,000 for each year of the operational phase. Costs for apprentices should be budgeted in accordance with standard institutional policy.

Other Information About the Operational Grant

The operational phase grant application may include an initial period of model development at the discretion of the institution, but a distinct interim period of model-building is not required.

Operational phase grants may be for up to \$500,000 per year for five years, or for up to \$550,000 per year for five years if support for the apprenticeship program is included. Only direct costs are supported.

NLM support for IAIMS at an institution will terminate at the end of the five-year operational phase, and is not renewable.

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The word "institution" as used in this program description implies that IAIMS will involve all major organizational components of the institution to the extent feasible. The NLM realizes that large differences among medical centers are inevitable, and that at some sites, certain suborganizations may not be suitable for incorporation into the initial IAIMS plan. However, a plan that is restricted to a relatively small fraction of the institution has misunderstood the point of the program, and will not be favorably reviewed.

Reviewers will review the grant applications by considering the following criteria:

- o Appropriateness, originality, feasibility, and relevance of the proposed project to the overall goals and objectives of the RFA.
- o Qualifications, experience and proposed responsibilities of the Principal Investigators and key personnel.
- o Scientific merit and organizational plans for implementing the proposed program.
- o Demonstration of availability of normal and at-risk patient populations.
- o Proposed collaborations among audiologists, otolaryngologists, neonatologists, nursing staff, and other key personnel within the applicant and collaborating institutions; adequacy of documented interest, capabilities, and commitment of all potential participating clinics.
- o Facilities and resources, and the availability of such for this project.
- o Adequacy of proposed overall administrative procedures and inter- and intra-institutional collaborative arrangements.
- o Reasonableness and appropriate justification of the proposed budget.
- o Plans to protect the rights and welfare of human subjects, including appropriate informed consent procedures.

WinFax Viewer OCR FAX3 WFXMAKEFX3HEADER' EDThe National Library of Medicine (NLM) wishes to provide planning and implementation grants to health science institutions that

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TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> L

ENTER DOCUMENT NUMBERS--> ALL

1

AN 93187459. 93062.

AU Lang-S. Kosma-V-M. Servomaa-K. Ruuskanen-J. Rytomaa-T.

IN Department of Research, Finnish Centre for Radiation and *Nuclear*
Safety, Helsinki.

TI Tumour induction in mouse epidermal cells irradiated by hot
particles.

SO Int-J-Radiat-Biol. 1993 Mar. 63(3). P 375-81.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We have shown elsewhere that highly non-uniform exposure to ionizing radiation from authentic Chernobyl-released and artificially-produced hot particles (fragments of *nuclear* fuel) transform fibroblastic 10T1/2 cells in vitro effectively. We have also shown that hot-particle exposure leads to mutation and overexpression of the tumour suppressor gene p53 (and some other growth-related genes) in mouse skin in vivo at a high frequency. In the present paper it is shown that hot-particles produced by irradiating natural uranium with slow neutrons, when implanted (immobilized) under the skin of hairless and nude mice, induce epidermal tumours in excess compared with the conventional non-threshold stochastic model of radiation-induced cancer. One explanation for the effectiveness of the hot-particle exposure, under the present assay conditions, is that the same cells in which specific radiation-induced DNA damage is most likely to occur, are forced into sustained mitotic activity in the chronic wound which develops around the radiation source (combined genotoxic and nongenotoxic effects). The results are consistent with a role for cell proliferation in multistage carcinogenesis in mouse skin. Author-abstract.

MJ ACCIDENTS. CARCINOMA-SQUAMOUS-CELL: etiology (et).

NEOPLASMS-EXPERIMENTAL: etiology (et). NEOPLASMS-RADIATION-INDUCED:
etiology (et). *NUCLEAR-REACTORS.* SKIN-NEOPLASMS: etiology (et).

MN ANIMAL. FEMALE. MALE. MICE. MICE-INBRED-HRS. MICE-NUDE.

SUPPORT-NON-U-S-GOVT. UKRAINE.

SB Priority Journals (M). Cancer Journals (X).

YR 1993.

IS 0955-3022. IRB.

CP ENGLAND (Z1.542.363.300).

IM 9306.

ND ENTRY DATE: 930408.

2

AN 93163683. 93053.

AU Luukkamaki-M. Servomaa-K. Rytomaa-T.

IN Laboratory of Radiobiology, Finnish Centre for Radiation and *Nuclear*
 Safety, Helsinki.

TI Onset of chromatin fragmentation in chloroma cell apoptosis is highly
 sensitive to UV and begins at non-B DNA conformation.

SO Int-J-Radiat-Biol. 1993 Feb. 63(2). P 207-13.

JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB UV irradiation induces programmed death, or apoptosis, in rat
 chloroleukaemia cells, a process characterized by typical cell
 morphology, fragmentation of chromatin into units of single and
 multiple nucleosomes, and transcriptional activation of LINE. Our
 study shows that this process is initiated by very low UV doses:
 exposure to one minimal erythema dose (MED, about 200 J/m²), at
 defined wavelengths ranging from 270 to 330 nm, is sufficient. By
 sequencing 100 randomly selected blunt-end chromatin fragments
 (single and multiple nucleosomes) we observed that at an early stage
 of apoptosis the fragmented DNA contains a four-fold excess of both
 long and short interspersed *nuclear* retroelements (LINEs and SINEs).
 A distinct sequence finding was also the observation that fragmented
 DNA is very rich in microsatellites, (CA)_n dinucleotides in
 particular, and in long stretches of homopurine/homopyrimidine
 domains. The present results thus indicate that chromatin
 fragmentation in UV-induced apoptosis begins at non-random locations
 involving non-B DNA conformation, and that the onset of the suicide
 process in chloroleukaemia cells is surprisingly sensitive to UV
 exposure. Author-abstract.

MJ APOPTOSIS: radiation-effects (re). CHROMATIN: radiation-effects
 (re). DNA. LEUKEMIA-MYELOID: physiopathology (pp).
 NUCLEIC-ACID-CONFORMATION. RADIATION-TOLERANCE: physiology (ph).
 ULTRAVIOLET-RAYS.

MN ANIMAL. APOPTOSIS: physiology (ph). LEUKEMIA-MYELOID: pathology
 (pa). RADIATION-GENETICS. RATS. SUPPORT-NON-U-S-GOVT.

RN 0 -- Chromatin.
 9007-49-2 -- DNA.

SB Priority Journals (M). Cancer Journals (X).

YR 1993.

IS 0955-3022. IRB.

CP ENGLAND (Z1.542.363.300).

IM 9305.

ND ENTRY DATE: 930317.

AN 93150072. 93051.

AU Tapiovaara-M-J. Wagner-R-F.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI SNR and noise measurements for medical imaging: I. A practical
 approach based on statistical decision theory.

SO Phys-Med-Biol. 1993 Jan. 38(1). P 71-92.

JT PHYSICS IN MEDICINE AND BIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A method of measuring the image quality of medical imaging equipment is considered within the framework of statistical decision theory. In this approach, images are regarded as random vectors and image quality is defined in the context of the image information available for performing a specified detection or discrimination task. The approach provides a means of measuring image quality, as related to the detection of an image detail of interest, without reference to the actual physical mechanisms involved in image formation and without separate measurements of signal transfer characteristics or image noise. The measurement does not, however, consider deterministic errors in the image; they need a separate evaluation for imaging modalities where they are of concern. The detectability of an image detail can be expressed in terms of the ideal observer's signal-to-noise ratio (SNR) at the decision level. Often a good approximation to this SNR can be obtained by employing sub-optimal observers, whose performance correlates well with the performance of human observers as well. In this paper the measurement of SNR is based on implementing algorithmic realizations of specified observers and analysing their responses while actually performing a specified detection task of interest. Three observers are considered: the ideal prewhitening matched filter, the non-prewhitening matched filter, and the DC-suppressing non-prewhitening matched filter. The construction of the ideal observer requires an impractical amount of data and computing, except for the most simple imaging situations. Therefore, the utilization of sub-optimal observers is advised and their performance in detecting a specified signal is discussed. Measurement of noise and SNR has been extended to include temporally varying images and dynamic imaging systems. Author-abstract.

MJ DECISION-THEORY. DIAGNOSTIC-IMAGING: statistics-and-numerical-data (sn). QUALITY-ASSURANCE-HEALTH-CARE.

MN HUMAN.

SB Priority Journals (M).

YR 1993.

IS 0031-9155. P6J.

CP ENGLAND (Z1.542.363.300).

IM 9305.

ND ENTRY DATE: 930304.

4

AN 93029290. 93011.

AU Gotz-B.

IN Arztliche Stelle Hessen.

TI `The work of the Hessian Medical Office:.

TT Die Arbeit der Arztlichen Stellen.

SO Radiologe. 1992 Aug. 32(8). P 356-61.

JT RADIOLOGE.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB The task of this committee on quality control and radiation protection is described, along with an explanation of the legal principles used in the execution of its duties *(Nuclear* *Safety* Law and Radiological Ordinance). Furthermore, the procedures used for the evaluation of X-rays are illustrated, followed by test films of X-ray equipment and film developers. Finally, the composition and activities of the Radiation Protection Committee are described. Author-abstract.

MJ QUALITY-ASSURANCE-HEALTH-CARE: standards (st). RADIATION-PROTECTION: standards (st). RADIOGRAPHY: standards (st).

MN ENGLISH-ABSTRACT. GERMANY. HUMAN. QUALITY-ASSURANCE-HEALTH-CARE: legislation-and-jurisprudence (lj).RADIATION-PROTECTION: legislation-and-jurisprudence (lj).

SB Priority Journals (M).

YR 1992.

IS 0033-832X. QRL.

CP GERMANY (Z1.542.315).

IM 9301.

ND ENTRY DATE: 921112.

5

AN 93014982. 93011.

AU Toivonen-H. Pollanen-R. Leppanen-A. Klemola-S. Lahtinen-J. Servomaa-K. Savolainen-A-L. Valkama-I.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI A *nuclear* incident at a power plant in Sosnovyy Bor, Russia.

SO Health-Phys. 1992 Nov. 63(5). P 571-3.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Several radionuclides were identified in the surface air in Finland following a *nuclear* incident in Sosnovyy Bor on 24 March 1992. In addition to gases, the release contained small uranium fuel particles. The radionuclide concentrations were of the same order of magnitude as the concentrations detected in Northern Finland in 1987 after the *nuclear* explosion in Novaya Zemlya (1 mBq m⁻³) but five orders of magnitude smaller than the concentrations during the Chernobyl accident in 1986. The radiological consequences in Finland were insignificant. However, studies show that even a minor release, across the sea and more than 100 km away, can be detected and important information, including the time of the incident and the composition of the release and the burn-up of the damaged fuel, can be revealed by the most accurate radioactivity measurements. Author-abstract.

MJ ACCIDENTS. AIR-POLLUTANTS-RADIOACTIVE: analysis (an). *NUCLEAR-REACTORS.*

MN FINLAND. IODINE-RADIOISOTOPES: analysis (an). RADIOISOTOPES: analysis (an). RUSSIA.

RN 0 -- Air-Pollutants-Radioactive.

0 -- Iodine-Radioisotopes.

0 -- Radioisotopes.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921119.

6

AN 92406466. 92000.

AU Ha-C-W. Chang-S-Y. Lee-B-H.

IN Radiation and Environment Division, Korea Institute of *Nuclear*
Safety, Daejeon.

TI Dose assessment to inhalation exposure of indoor 222Rn daughters in
Korea.

SO Health-Phys. 1992 Oct. 63(4). P 453-6.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Long-term, average indoor 222Rn concentrations were measured in 12
residential areas by passive CR-39 radon cups. Corresponding
equilibrium-equivalent concentration of radon daughters were derived.
The resulting effective dose equivalent for the Korean population due
to inhalation exposure of this equilibrium-equivalent concentration
of radon daughters was then evaluated. Author-abstract.

MJ AIR-POLLUTION-INDOOR: analysis (an). AIR-POLLUTION-RADIOACTIVE:
analysis (an). ENVIRONMENTAL-EXPOSURE: analysis (an). RADON:
analysis (an).

MN ASPIRATION. HUMAN. KOREA. RADIATION-DOSAGE. TIME-FACTORS.

RN 10043-92-2 -- Radon.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 9212.

ND ENTRY DATE: 921022.

7

AN 92356275. 92000.

AU Miyachi-Y. Ogawa-N. Mori-A.

IN *Nuclear* *Safety* Section, Central Research Institute of Electric Power
Industry, Komae Research Laboratory, Tokyo, Japan.

TI Rapid decrease in brain enkephalin content after low-dose whole-body
X-irradiation of the rat.

SO J-Radiat-Res (Tokyo). 1992 Mar. 33(1). P 11-5.

JT JOURNAL OF RADIATION RESEARCH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Methionine-enkephalin (ME) contents in the hypothalamus and other rat
brain structures were measured immediately after 10 or 20 cGy

whole-body X-irradiation. The ME contents of homogenates of the striatum, hypothalamus, midbrain + thalamus, hindbrain and pituitary were assayed radioimmunologically with ¹²⁵I. The contents of all the structures, except the pituitary, decreased significantly after 20 cGy irradiation. The reduction in the hypothalamus was transient, ME content gradually recovering with time. These results suggest that the central nervous system of mammals is one of the most radiosensitive organs as judged by changes in stress-induced mediators such as ME. Author-abstract.

MJ BRAIN-CHEMISTRY: radiation-effects (re). ENKEPHALINS: analysis (an).
WHOLE-BODY-IRRADIATION: adverse-effects (ae).

MN ANIMAL. DEPRESSION-CHEMICAL. MALE. RATS. RATS-INBRED-STRAINS.

RN 0 -- Enkephalins.

YR 1992.

IS 0449-3060. JVO.

CP JAPAN (Z1.252.474.463).

IM 9211.

ND ENTRY DATE: 920910.

CLASS UPDATE: 92.

8

AN 92315143. 92000.

AU Auvinen-A.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI Social class and colon cancer survival in Finland.

SO Cancer. 1992 Jul 15. 70(2). P 402-9.

JT CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB METHODS. Social class differences in colon cancer survival were studied in 3147 patients with colon cancer diagnosed in Finland from 1979-1982. Of these patients, 2969 were eligible for survival analysis. RESULTS. A clear social class gradient in colon cancer survival was detected. The difference in the age-adjusted relative risk of death due to colon cancer between the highest (I) and lowest (IV) social class was 19%. Stage of disease at diagnosis accounted for a substantial proportion of differences in survival, and treatment accounted for the rest of them. Differences in treatment by social class were most apparent among patients with advanced or unknown stage of disease at diagnosis. Controlling for the place of residence had little effect on the survival differences. Delay in diagnosis did not account for the observed differences in survival by social class. Author-abstract.

MJ COLONIC-NEOPLASMS: mortality (mo). SOCIAL-CLASS.

MN AGED. AGED-80-AND-OVER. COLONIC-NEOPLASMS: epidemiology (ep),
surgery (su). FEMALE. FINLAND: epidemiology (ep). HUMAN.
LIFE-TABLES. MALE. MIDDLE-AGE. MULTIVARIATE-ANALYSIS. PREVALENCE.
PROGNOSIS. REGRESSION-ANALYSIS. RISK. SURVIVAL-RATE.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920731.

9

AN 92279754. 92000.
AU Mustonen-R. Christensen-T. Stranden-E. Ehdwall-H. Hansen-H.
Suolanen-V. Vieno-T.
IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.
TI Natural radiation--a perspective to radiological risk factors of
nuclear energy production.
SO Sci-Total-Environ. 1992 Apr. 114. P 99-112.
JT SCIENCE OF THE TOTAL ENVIRONMENT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Radiation doses from natural radiation and from man-made
modifications on natural radiation, and different natural
radiological environments in the Nordic countries are summarized and
used as a perspective for the radiological consequences of *nuclear*
energy production. The significance of different radiation sources
can be judged against the total collective effective dose equivalent
from natural radiation in the Nordic countries, 92,000 manSv per
year. The collective dose from *nuclear* energy production during
normal operation is estimated to 20 manSv per year and from
non-nuclear energy production to 80 manSv per year. The increase in
collective dose due to the conservation of heating energy in Nordic
dwellings is estimated to 23,000 manSv per year, from 1973 to 1984.
An indirect radiological danger index is defined in order to be able
to compare the significance of estimated future releases of
radionuclides from a final repository of spent *nuclear* fuel to the
consequences of natural radionuclides in different environments. The
danger index of natural radiological environments will not be
significantly increased by future releases of *nuclear* fuel
radionuclides. Author-abstract.
MJ *NUCLEAR-ENERGY.* RADIATION-DOSAGE.
MN HEAT. HUMAN. ICELAND. *NUCLEAR-REACTORS.* RISK-FACTORS.
SCANDINAVIA.
SB Priority Journals (M).
YR 1992.
IS 0048-9697. UJ0.
CP NETHERLANDS (Z1.542.651).
IM 9209.
ND ENTRY DATE: 920630.

10

AN 91217846. 91000.
AU Tapiovaara-M.
IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI Ideal observer and absolute efficiency of detecting mirror symmetry in random images.
 SO J-Opt-Soc-Am `A:. 1990 Dec. 7(12). P 2245-53.
 JT JOURNAL OF THE OPTICAL SOCIETY OF AMERICA. PART A, OPTICS AND IMAGE SCIENCE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The problem of detecting symmetry has been studied by using digitally generated images with random pixel values. The statistical efficiency of humans and a computerized observer, the cross correlator of the image halves, has been evaluated. The efficiency of humans is approximately 100% when the image comprises only a few pixels and is notably better than that of the cross correlator. When the number of pixels in the image is increased, the detectability of symmetry gets better. For human observers detectability saturates, however, on a level corresponding to a modest number of pixels. Human efficiency in detecting symmetry is thus low when the image matrix size is large. Author-abstract.
 MJ VISUAL-PERCEPTION: physiology (ph).
 MN ALGORITHMS. COMPARATIVE-STUDY. HUMAN. IMAGE-PROCESSING-COMPUTER-ASSISTED. MATHEMATICS. RANDOM-ALLOCATION.
 SB Priority Journals (M).
 YR 1990.
 IS 0740-3232. JH1.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9108.
 ND ENTRY DATE: 910605.

11

AN 90217790. 90000.
 AU Barabanova-A. Osanov-D-P.
 IN Division of *Nuclear* *Safety,* IAEA, Vienna, Austria.
 TI The dependence of skin lesions on the depth-dose distribution from beta-irradiation of people in the Chernobyl *nuclear* power plant accident.
 SO Int-J-Radiat-Biol. 1990 Apr. 57(4). P 775-82.
 JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A detailed study was made of the conditions of exposure of 56 victims of the Chernobyl accident who suffered radiation lesions in the skin. The most typical conditions were experimentally reconstructed in order to investigate the specific characteristics of the distribution of doses to the skin according to depth for different exposure conditions. The absorbed doses at depths of 7 mg cm⁻² and 150 mg cm⁻² were calculated on the basis of measurements with multilayer skin dosimeters. The patients were classified into four groups. Dosimetric characteristics for each group were compared with the clinical pictures to establish the critical factors in the occurrence of lesions. It was demonstrated that the depth-dose distribution of

beta-radiation to the skin is of great influence not only for the early effects of radiation but also for the later effects. Radiation lesions in the skin led to death if the area of the lesions exceeded about 50% of the total body surface, and if the doses to the skin were about 200-300 Gy at 7 mg cm⁻² and more than about 30 Gy at 150 mg cm⁻². Author-abstract.

MJ ACCIDENTS. BETA-RAYS. *NUCLEAR-REACTORS.* SKIN: radiation-effects (re).
MN HUMAN. RADIATION-DOSAGE. UKRAINE.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0955-3022. IRB.
CP ENGLAND (Z1.542.363.300).
IM 9007.
ND ENTRY DATE: 900517.
CLASS UPDATE: 91.

12

AN 90190826. 90000.
AU Anderson-G-C.
TI *Nuclear* *safety.* US response to Sellafield data `news:.
SO Nature. 1990 Mar 15. 344(6263). P 184.
JT NATURE.
PT NEWS (NEW).
LG English (EN).
MJ ENVIRONMENTAL-EXPOSURE. FATHERS. LEUKEMIA-RADIATION-INDUCED: epidemiology (ep). RADIOACTIVE-WASTE: adverse-effects (ae).
MN CLUSTER-ANALYSIS. GREAT-BRITAIN. HUMAN. LEUKEMIA-RADIATION-INDUCED: genetics (ge). MALE. RADIATION-DOSAGE. UNITED-STATES.
RN 0 -- Radioactive-Waste.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0028-0836. NSC.
CP ENGLAND (Z1.542.363.300).
IM 9006.
ND ENTRY DATE: 900420.
CLASS UPDATE: 92.

13

AN 90171711. 90000.
AU Servomaa-K. Rytomaa-T.
IN Laboratory of Radiobiology, Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.
TI UV light and ionizing radiations cause programmed death of rat chloroleukaemia cells by inducing retropositions of a mobile DNA element (L1Rn).
SO Int-J-Radiat-Biol. 1990 Feb. 57(2). P 331-43.
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The long interspersed repetitive DNA, L1 or LINE, is a class of mobile genetic elements which can amplify in the cell genome by retroposition, i.e. by a mechanism similar to that of retroviruses. We have shown before that in rat chloroleukaemia cells, maintained in suspension culture in vitro, this element is spontaneously transcriptionally activated at about half of the maximal population density. About 24 h later an explosive amplification of the L1 element is seen in DNA: about 300,000 copies are inserted into apparently random locations in the cell genome, thus creating an outburst of lethal mutations. Dead cells display morphological features typical to programmed death. The present results show that UV light and ionizing radiation induce rapid, premature activation of the L1Rn element during the fast exponential growth of chloroleukaemia cells, and that also this exogenously induced activation is followed by programmed cell death. Transcriptional activation of the L1Rn element can be very strong after the UV exposure: at least 70-fold. Severe hyperthermia, lethal to the cells, does not lead to L1Rn activation (actually a marked suppression is seen) and the mode of phenomic death is necrosis. Some biological implications of the results are discussed. Author-abstract.

MJ CELL-SURVIVAL: radiation-effects (re). DNA-INSERTION-ELEMENTS: radiation-effects (re).DNA-NEOPLASM: radiation-effects (re). LEUKEMIA-MYELOID: pathology (pa). TUMOR-CELLS-CULTURED: radiation-effects (re). ULTRAVIOLET-RAYS.

MN ANIMAL. CELL-LINE. IN-VITRO. RATS.

RN 0 -- DNA-Neoplasm.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0955-3022. IRB.

CP ENGLAND (Z1.542.363.300).

IM 9006.

ND ENTRY DATE: 900405.

CLASS UPDATE: 91.

14

AN 90076232. 90000.

AU Servomaa-A. Bjorkman-J.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI Use of an AAPM (American Association of Physicists in Medicine) DSA phantom in quality assurance.

SO Eur-J-Radiol. 1989 Nov. 9(4). P 217-20.

JT EUROPEAN JOURNAL OF RADIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The performance of nine DSA units installed in Finnish hospitals was evaluated by means of an AAPM DSA phantom. The spatial resolution, low-contrast performance, contrast linearity, subtraction artifacts and radiation exposure were studied. The spatial and contrast

resolution agree well with those published in the literature. No serious artifacts or false recording in subtraction images were noted. Author-abstract.

MJ ANGIOGRAPHY-DIGITAL-SUBTRACTION: instrumentation (is).

MODELS-STRUCTURAL. QUALITY-ASSURANCE-HEALTH-CARE.

MN HUMAN.

SB Priority Journals (M).

YR 1989.

IS 0720-048X. EM6.

CP NETHERLANDS (Z1.542.651).

IM 9003.

ND ENTRY DATE: 900119.

15

AN 90074034. 90000.

AU Karila-K-T.

IN Finnish Centre for radiation and *nuclear* *safety,* Helsinki.

TI Manual or automatic exposure controller imaging in mammography.

SO Radiogr-Today. 1988 Nov. 54(618). P 35-40.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ MAMMOGRAPHY: methods (mt).

MN AUTOMATION. HUMAN. MODELS-STRUCTURAL. OPTICS. RADIATION-DOSAGE.

REPRODUCIBILITY-OF-RESULTS. TIME-FACTORS.

X-RAY-INTENSIFYING-SCREENS.

SB Priority Journals (M).

YR 1988.

IS 0954-8211. AFQ.

CP ENGLAND (Z1.542.363.300).

IM 9003.

ND ENTRY DATE: 900122.

CLASS UPDATE: 90.

16

AN 90049121. 90000.

AU Rissanen-K. Rahola-T.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI Cs-137 concentration in reindeer and its fodder plants.

SO Sci-Total-Environ. 1989 Sep. 85. P 199-206.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Radionuclides, especially the long-lived ¹³⁷Cs (physical half-life 30 years), are accumulated efficiently in the northern, subarctic, lichen-reindeer-man foodchain. Until the Chernobyl accident the fallout nuclides studied originated from *nuclear* weapons tests. After this accident some fresh fallout was deposited in Finnish Lapland. Lichens grow very slowly and collect nutrients very efficiently from air, rain and snow. During winter the basic fodder plants for reindeer are lichens and some winter-green plants, shrubs

and dry leaves. During the bare-ground season, the reindeer eat various grasses, herbs and leaves etc. Lichens constitute 30-50 per cent of the entire vegetable mass consumed by the reindeer in a year. The highest ¹³⁷Cs-concentration 2500 Bq/kg dry weight was found in lichen in the middle of the 1960s. In 1985 the concentration had decreased to about 240 Bq/kg dry weight. After the Chernobyl accident the ¹³⁷Cs-concentration in lichen varied from 200 to 2000 Bq/kg dry weight in Finnish Lapland. In reindeer fodder plant samples collected in the 1980s before the Chernobyl accident the ¹³⁷Cs-concentration varied from 5 to 970 Bq/kg dry weight. The highest ¹³⁷Cs-concentration in reindeer meat, about 2500 Bq/kg fresh weight, was found in 1965 and thereafter decreased to about 300 Bq/kg fresh weight in the winter before the Chernobyl accident. After the accident the mean ¹³⁷Cs-concentration in reindeer meat from the 1986-87 slaughtering period was 720 Bq/kg fresh weight and in 1987-88, 630 Bq/kg fresh weight. Author-abstract.

MJ ACCIDENTS. ANIMAL-FEED: analysis (an). CESIUM-RADIOISOTOPES: analysis (an). LICHENS: analysis (an). *NUCLEAR-REACTORS.* PLANTS: analysis (an). RADIOACTIVE-FALLOUT. REINDEER.

MN ANIMAL. FINLAND. GEOGRAPHY. UKRAINE.

RN 0 -- Cesium-Radioisotopes.

0 -- Radioactive-Fallout.

SB Priority Journals (M).

YR 1989.

IS 0048-9697. UJ0.

CP NETHERLANDS (Z1.542.651).

IM 9002.

ND ENTRY DATE: 891219.

CLASS UPDATE: 92.

17

AN 90049117. 90000.

AU Belli-M. Drigo-A. Menegon-S. Menin-A. Nazzi-P. Sansone-U. Toppano-M.

IN Italian Directorate for *Nuclear* *Safety* and Health Protection (ENEA-DISP/ARA-SCA) Rome.

TI Transfer of Chernobyl fall-out caesium radioisotopes in the cow food chain.

SO Sci-Total-Environ. 1989 Sep. 85. P 169-77.

JT SCIENCE OF THE TOTAL ENVIRONMENT.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB From February to October 1987 samples of milk, grass and other components of the cow diet were regularly collected and analyzed for their radiocaesium contents in 26 sampling stations in a north-eastern region of Italy (Friuli-Venezia Giulia). In this paper we report the feed-to-milk transfer factors for radiocaesium obtained in 13 farms of this region of Italy. Author-abstract.

MJ ACCIDENTS. ANIMAL-FEED: analysis (an). CATTLE.

CESIUM-RADIOISOTOPES: analysis (an). FOOD-CONTAMINATION-RADIOACTIVE:

analysis (an). MILK: analysis (an). *NUCLEAR-REACTORS.*
 POTASSIUM-RADIOISOTOPES: analysis (an). RADIOACTIVE-FALLOUT.
 MN ANIMAL. FEMALE. GRASSES: analysis (an). ITALY. SILAGE: analysis
 (an).TIME-FACTORS. UKRAINE.
 RN 0 -- Cesium-Radioisotopes.
 0 -- Potassium-Radioisotopes.
 0 -- Radioactive-Fallout.
 SB Priority Journals (M).
 YR 1989.
 IS 0048-9697. UJ0.
 CP NETHERLANDS (Z1.542.651).
 IM 9002.
 ND ENTRY DATE: 891219.
 CLASS UPDATE: 92.

18

AN 89333243. 89000.
 AU Hellmuth-K-H. Wagner-A. Fischer-E.
 IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki, Finland.
 TI `The radioecology of the grapevine. 1. The transfer of *nuclear*
 weapons fallout from the soil into wine:.
 TT Zur Radioökologie der Weinrebe. Teil 1. Transfer von
 Kernwaffenfallout vom Boden in den Wein.
 SO Z-Lebensm-Unters-Forsch. 1989 Apr. 188(4). P 317-23.
 JT ZEITSCHRIFT FÜR LEBENSMITTEL-UNTERSUCHUNG UND -FORSCHUNG.
 PT JOURNAL-ARTICLE (ART).
 LG German (GE).
 AB In a field investigation (1983-1985) comprising eight places of the
 most important viticultural regions in the Federal Republic of
 Germany, the contents of the radionuclides tritium (3H), carbon-14
 (14C), strontium-90 (90Sr), and cesium-137 (137Cs) in air, soils,
 leaves of the vine, grapes and wine were measured and site-specific
 transfer factors were calculated. Data concerning soil parameters,
 climatic conditions, cultivation and vinification were collected.
 The tritium content of all samples was 10 Bq/l water of combustion,
 independent of location and year. The specific activity of 14C in
 the atmosphere and in biological material was 0.22 Bq/g carbon,
 independent of site and year. 90Sr contents of soils fluctuated
 between 0.7 and 3.5 Bq/kg dry matter. The mean content of leaves was
 2 Bq/kg fresh material, of grapes 0.035 Bq/kg and of wine 0.008 Bq/l.
 137Cs content of soils fluctuated between 1.3 and 7.9 Bq/kg dry
 matter. The mean content of leaves was 0.098 Bq/kg fresh material,
 of grapes 0.021 Bq/kg and of wine 0.0085 Bq/l. A relation between
 transfer of radionuclides and soil parameters and between the
 contents of grapes and wine was not recognizable. While
 cultivar-specific differences were not observed in grapes, red wines
 contained somewhat more 137Cs than white wines. Transfer factors
 soil grapes were 0.027 for 90Sr and 0.0057 for 137Cs. Site-specific
 influences such as soil parameters, climate, cultivation,
 vinification and differences between years led to a relatively small

fluctuation of values. An influence of the *nuclear* power station Neckarwestheim has not been found in any of the radionuclides.

Author-abstract.

MJ FRUIT: analysis (an). *NUCLEAR-WARFARE.* RADIOACTIVE-FALLOUT: analysis (an). SOIL-POLLUTANTS: analysis (an).
SOIL-POLLUTANTS-RADIOACTIVE: analysis (an). WINE: analysis (an).
MN AIR-POLLUTANTS-RADIOACTIVE: analysis (an). CARBON-RADIOISOTOPES: analysis (an). CESIUM-RADIOISOTOPES: analysis (an). CLIMATE. ENGLISH-ABSTRACT. GERMANY-WEST. STRONTIUM-RADIOISOTOPES: analysis (an). TRITIUM: analysis (an).
RN 0 -- Air-Pollutants-Radioactive.
0 -- Carbon-Radioisotopes.
0 -- Cesium-Radioisotopes.
0 -- Radioactive-Fallout.
0 -- Soil-Pollutants.
0 -- Soil-Pollutants-Radioactive.
0 -- Strontium-Radioisotopes.
10028-17-8 -- Tritium.
SB Priority Journals (M).
YR 1989.
IS 0044-3026. YFA.
CP GERMANY-WEST (Z1.542.315.570).
IM 8911.
ND ENTRY DATE: 890901.
CLASS UPDATE: 92.

19

AN 89308008. 89000.
AU Jokela-K. Aaltonen-J. Lukkarinen-A.
IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.
TI Measurements of electromagnetic emissions from video display terminals at the frequency range from 30 Hz to 1 MHz.
SO Health-Phys. 1989 Jul. 57(1). P 79-88.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Electric (E) and magnetic field (B) strengths or flux densities were measured at distances of 30 and 50 cm from the screen of video displays at a frequency range from 30 Hz to 1 MHz. The measurement system consisted of an optically coupled active dipole for E-fields, a magnetic field meter, a digital oscilloscope, a portable computer for data storage and a laboratory computer for Fourier analysis of the recorded signals. Comparison of measurement results with available broadband exposure standards or proposed standards indicated that magnetic flux density should be measured at both the (ELF) frequency range from 30 Hz to 300 Hz and at the (RF) frequency range from 10 kHz to 500 kHz. Alternatively, time derivative of magnetic flux density may be measured. Nor should the measurement of the electric field strength at the RF range be neglected. These conclusions, however, are valid only in relative terms. In all cases

the exposure is at least one decade below the most stringent exposure limit. The maximum relative exposure 0.077 was obtained by applying the ACGIH standard for magnetic fields at a distance of 30 cm from the screen. The field strengths decrease by a factor varying from 2.5 to 3.5 at a distance of 50 cm, which is a more realistic distance when considering actual working conditions. Author-abstract.

MJ COMPUTER-SYSTEMS. RADIATION.

MN CALIBRATION. COMPARATIVE-STUDY. ELECTROMAGNETIC-FIELDS.
FOURIER-ANALYSIS. MATHEMATICS. MAXIMUM-PERMISSIBLE-EXPOSURE-LEVEL.
MICROCOMPUTERS. OSCILLOMETRY. RADIATION-DOSAGE. RADIO-WAVES.
SPECTRUM-ANALYSIS.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890817.

CLASS UPDATE: 90.

20

AN 89173895. 89000.

AU Mustonen-R-A. Reponen-A-R. Jantunen-M-J.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki, Finland.

TI Artificial radioactivity in fuel peat and peat ash in Finland after the Chernobyl accident.

SO Health-Phys. 1989 Apr. 56(4). P 451-8.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The accident at the Chernobyl *nuclear* power plant in April 1986 caused very uneven deposition of radionuclides in Finland. The deposited radionuclides were found in relatively high concentrations in fuel peat and especially in peat ash because a thin surface layer of peat-production bogs was extracted as fuel peat soon after the fallout occurred. Concentrations of artificial radionuclides in fuel peat and peat ash were measured at six peat-fired power plants in Finland throughout the heating season 1986-87. Concentrations of ¹³⁷Cs in composite peat samples varied between 30 and 3600 Bq kg⁻¹ dry weight and in ash samples between 600 and 68,000 Bq kg⁻¹. High concentrations in peat ash caused some restrictions to the utilization of peat ash for various purposes. Author-abstract.

MJ ACCIDENTS. *NUCLEAR-REACTORS.* RADIOACTIVE-FALLOUT: analysis (an).
SOIL: analysis (an). SOIL-POLLUTANTS: analysis (an).
SOIL-POLLUTANTS-RADIOACTIVE: analysis (an).

MN FINLAND. UKRAINE.

RN 0 -- Radioactive-Fallout.

0 -- Soil-Pollutants.

0 -- Soil-Pollutants-Radioactive.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 8907.
ND ENTRY DATE: 890505.
CLASS UPDATE: 92.

21

AN 89118806. 89000.
AU Karila-K-T.
IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.
TI Quality control of mammographic equipment: a 5-year follow-up.
SO Br-J-Radiol. 1988 Dec. 61(732). P 1155-67.
JT BRITISH JOURNAL OF RADIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A quality-control project covering 56 pieces of mammographic equipment was carried out in Finland. The evaluation was based on the determination of contrast, film optical density, resolution, focus size, tube voltage, exposure time, half-value thickness, reproducibility and linearity of exposure, surface and exit dose, and defects at each centre when employing routinely used techniques. Dose and image quality were assessed using three phantoms. The results are compared with those obtained 5 years earlier and by other authors. Although the situation has, in many ways, improved considerably over the last 5 years (for instance, the average whole-breast dose has fallen on average by 84%, 7.37----1.10 mGy), there is still room for further improvement, especially in the optimization of the developing processes. Author-abstract.
MJ MAMMOGRAPHY: instrumentation (is).
MN FEMALE. FINLAND. HUMAN. MODELS-STRUCTURAL. QUALITY-CONTROL. RADIATION-DOSAGE.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0007-1285. B28.
CP ENGLAND (Z1.542.363.300).
IM 8905.
ND ENTRY DATE: 890322.

22

AN 89051856. 89000.
AU Servomaa-K. Rytomaa-T.
IN Laboratory of Radiobiology, Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.
TI Suicidal death of rat chloroleukaemia cells by activation of the long interspersed repetitive DNA element (L1Rn).
SO Cell-Tissue-Kinet. 1988 Jan. 21(1). P 33-43.
JT CELL AND TISSUE KINETICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Rat chloroleukaemia cells, maintained in suspension culture in different media, show rapid exponential growth without cell loss. At about half of the maximal population density the long interspersed repetitive DNA element (L1Rn) is suddenly transcriptionally activated without any obvious exogenous reason. Population growth is then inhibited and, within about 24 h after reaching the maximal density, the population undergoes programmed death (apoptosis). Suicidal cell death is caused by sudden incorporation, apparently by retroposition via an RNA intermediate, of about 300,000 copies of the L1Rn element into random locations in the cell genome, thus creating lethal mutations. The preceding growth inhibition is associated with repression, to an undetectable level, of c-Ki-ras expression. Up to the point of massive L1Rn incorporation and cell death, all phenomena are quickly reversible by subculturing; medium change alone is not sufficient. Biological implications of these surprising findings are discussed. Author-abstract.

MJ DNA-NEOPLASM: genetics (ge). GENES-RAS. LEUKEMIA-EXPERIMENTAL: genetics (ge). PROTO-ONCOGENE-PROTEINS: genetics (ge). REPETITIVE-SEQUENCES-NUCLEIC-ACID.

MN ANIMAL. BLOTTING-NORTHERN. CELL-DIVISION. CELL-SURVIVAL. GENE-AMPLIFICATION. GENE-EXPRESSION-REGULATION. LEUKEMIA-EXPERIMENTAL: pathology (pa). RATS. TRANSCRIPTION-GENETIC.

RN 0 -- DNA-Neoplasm.

0 -- Proto-Oncogene-Protein-p21-ras.

0 -- Proto-Oncogene-Proteins.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0008-8730. CQA.

CP ENGLAND (Z1.542.363.300).

IM 8903.

ND ENTRY DATE: 890105.

CLASS UPDATE: 92.

23

AN 88309569. 88000.

AU Havukainen-R.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki.

TI Survey of dental radiographic equipment and radiation doses in Finland.

SO Acta-Radiol. 1988 Jul-Aug. 29(4). P 481-5.

JT ACTA RADIOLOGICA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The radiation dose exposure, and the faults in about 1,700 dental units inspected at dental surgeries by the Finnish Centre for Radiation and *Nuclear* *Safety* in 1981-1985, were analysed. The mean value of skin doses in the bite-wing projection was about 6.2 mGy, the range 0.5 to 151 mGy. The mean energy imparted per bite-wing examination was estimated as 0.68 mJ and that per panoramic examination as 1.2 mJ. That gives a total imparted energy of about

600 J per year for conventional dental examinations and about 420 J per year for panoramic examinations. This gives a total of 0.13 mJ from conventional and 0.089 mJ from panoramic examinations per inhabitant per year. The collective effective dose equivalent was calculated as about 9 manSv for conventional dental examinations and about 6 manSv for panoramic examinations. Twenty per cent of units had some fault which was capable of decreasing radiation *safety.* Forty per cent of units were served reparation orders or other remarks were made in inspection documents. Large doses were usually accounted for by incorrect film processing and malfunction of the exposure timer. Author-abstract.

MJ RADIATION-DOSAGE. RADIOGRAPHY-DENTAL: instrumentation (is).

MN FINLAND.

SB Priority Journals (M).

YR 1988.

IS 0284-1851. ATA.

CP SWEDEN (Z1.542.808.843).

IM 8812.

ND ENTRY DATE: 880928.

24

AN 88302406. 88000.

AU Rich-V.

TI Soviet worries about *nuclear* *safety* after Chernobyl `news:.

SO Nature. 1988 Aug 4. 334(6181). P 373.

JT NATURE.

PT NEWS (NEW).

LG English (EN).

MJ ACCIDENT-PREVENTION. DISASTERS. *NUCLEAR-REACTORS:* standards (st).
SAFETY.

MN CESIUM. HUMAN. RADIOACTIVE-FALLOUT. STRONTIUM. UKRAINE.

RN 0 -- Radioactive-Fallout.

7440-24-6 -- Strontium.

7440-46-2 -- Cesium.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0028-0836. NSC.

CP ENGLAND (Z1.542.363.300).

IM 8811.

ND ENTRY DATE: 880912.

CLASS UPDATE: 91.

25

AN 88197653. 88000.

AU Jokela-K.

IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki, Finland.

TI Theoretical and measured power density in front of VHF/UHF
broadcasting antennas.

SO Health-Phys. 1988 May. 54(5). P 533-43.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A simple and easy-to-use model based on more rigorous computations was formulated for the prediction of power density levels in front of dipole array-type VHF (very high frequency) and UHF (ultra high frequency) broadcasting antennas. Measurements on site verified the usefulness of the model. The distance at which the power density begins to exceed 10 W.m^{-2} --the value established by standards as a limit--is roughly 40 m for UHF-TV antennas, 30 m for FM (frequency modulated) radio antennas and 15 m for VHF-TV antennas. Typical average input powers of antennas are 20 kW, 4 kW and 10 kW for FM radio, VHF-TV and UHF transmissions, respectively. Author-abstract.

MJ RADIO-WAVES.

MN ENVIRONMENTAL-EXPOSURE. FINLAND. MODELS-THEORETICAL. RADIO: instrumentation (is). TELEVISION: instrumentation (is).

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8808.

ND ENTRY DATE: 880609.

26

AN 88069556. 88000.

AU Cannell-W.

IN Systems Engineering and Reliability Division, Commission of the European Communities Joint Research Center, Ispra, Italy.

TI Probabilistic reliability analysis, quantitative *safety* goals, and *nuclear* licensing in the United Kingdom.

SO Risk-Anal. 1987 Sep. 7(3). P 311-9.

JT RISK ANALYSIS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Although unpublicized, the use of quantitative *safety* goals and probabilistic reliability analysis for licensing *nuclear* reactors has become a reality in the United Kingdom. This conclusion results from an examination of the process leading to the licensing of the Sizewell B PWR in England. The licensing process for this reactor has substantial implications for *nuclear* *safety* standards in Britain, and is examined in the context of „hñ:É%Ý
¥¹¢É•¹‘¢%Ý...É‘Í5RôýýýŠÖ...¹Ñ¥Ñ...Ñ¥Ü•RŠ...™•Ñå@:½...±ÍJ¹¢¡•åå+<Wå*]Xºes. Author-abstract.

MJ ACCIDENT-PREVENTION. LICENSURE. *NUCLEAR-REACTORS.* RISK.
SAFETY.

MN GREAT-BRITAIN. SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1987.

IS 0272-4332. RIA.

CP UNITED-STATES (Z1.107.567.875).

IM 8803.

ND ENTRY DATE: 871229.

CLASS UPDATE: 90.

27

AN 88065914. 88000.
AU Hadlington-S.
TI More *nuclear* *safety* `news:.
SO Nature. 1987 Dec 17-23. 330(6149). P 596.
JT NATURE.
PT NEWS (NEW).
LG English (EN).
MJ *NUCLEAR-REACTORS:* standards (st). POWER-PLANTS: standards (st).
MN *SAFETY.*
SB Priority Journals (M). Cancer Journals (X).
YR 1987.
IS 0028-0836. NSC.
CP ENGLAND (Z1.542.363.300).
IM 8803.
ND ENTRY DATE: 880119.
CLASS UPDATE: 91.

28

AN 88004493. 88000.
AU Karila-K-T.
IN Finnish Centre for Radiation and *Nuclear* *Safety,* Helsinki, Finland.
TI Image quality of mammographic systems.
SO Eur-J-Radiol. 1987 Aug. 7(3). P 194-8.
JT EUROPEAN JOURNAL OF RADIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The image quality in mammography was evaluated for all the 56 equipment-image receptor combinations used in Finland with two phantoms containing test objects of three types and different sizes. We obtained 2-8 fold variations for the smallest sizes of the three objects (specks, fibres and masses) visible in the X-ray images and 3.0-3.7 fold variations for an "image score". The smallest speck, fibre and mass sizes visible in the radiographs were 0.24, 0.75 and 0.5 mm, respectively. An unacceptable image quality was obtained in 36% of the studied cases. A recommendation is presented.
Author-abstract.
MJ BREAST-NEOPLASMS: radiography (ra). MAMMOGRAPHY: standards (st).
MN FEMALE. HUMAN. MODELS-ANATOMIC. QUALITY-CONTROL.
SB Priority Journals (M).
YR 1987.
IS 0720-048X. EM6.
CP GERMANY-WEST (Z1.542.315.570).
IM 8801.
ND ENTRY DATE: 871119.
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ENCYCLOPEDIA*p+50Y*p0X *p+51Y*p0XOPERON*p+50Y*p0X *p

+50Y*p0X{oh'-puhr-ohn}*p+50Y*p0X *p+50Y*p0XIn genetics, the term operon is used

to specify the model of*p+50Y*p0Xgene regulation proposed by French scientists

Francois JACOB*p+50Y*p0Xand Jacques MONOD in 1961. Two types of gene are

involved:*p+50Y*p0Xcontrol and structural. The control genes of each

operon*p+50Y*p0Xinclude a regulator, promoter, and operator gene, whereas

the*p+50Y*p0Xstructural genes determine the amino acid sequences of

various*p+51Y*p0Xproteins. A great deal of experimental evidence exists for the

*p+50Y*p0Xoperon model, which describes very well the

regulatory*p+50Y*p0Xmechanism of enzyme production in prokaryotes (see

PROKARYOTE), *p+50Y*p0Xsuch as bacteria and blue-green algae. Based on the

conditions *p+50Y*p0Xdetermining their production, two types of enzymes

are*p+50Y*p0Xinvolved: inducible and repressible.*p+50Y*p0XInducible

Enzymes*p+50Y*p0X *p+50Y*p0XInducible enzymes are involved in splitting complex

molecules*p+50Y*p0X(substrates), a process known as catabolism, that

provides*p+51Y*p0Xenergy or simple materials for the synthesis of

other*p+50Y*p0Xcompounds. An inducible enzyme is produced only when

the*p+50Y*p0Xspecific substrate on which it acts is present. For

example,*p+50Y*p0Xthe enzyme beta-galactosidase, which breaks down lactose

into*p+50Y*p0Xgalactose and glucose, is formed only when lactose is

present;*p+50Y*p0Xin the absence of lactose, the synthesis of this

enzyme*p+50Y*p0Xvirtually stops.*p+50Y*p0X *p+50Y*p0XThe inducible enzyme system

involves two types of genes: a*p+50Y*p0Xregulator gene, which determines whether

the enzyme will be*p+51Y*p0Xproduced; and one or more structural genes, which

specify the*p+50Y*p0Xamino acid sequence of the enzyme being produced.

Two*p+50Y*p0Xattachment loci on the structural genes control the movement of *p

+50Y*p0Xribonucleic acid (RNA)-polymerase molecules onto the genes.*p+50Y*p0X *p

+50Y*p0XIn the absence of the substrate the regulator gene (i) produces a *p

+50Y*p0Xrepressor substance (R) that attaches to the operator locus*p+50Y*p0Xand

prevents the RNA-polymerase molecules from attaching to the *p+50Y*p0Xstructural

genes. When the substrate, known as the inducer*p+50Y*p0X(I), is present, the

repressor substance combines with the*p+51Y*p0Xinducer to form a molecule that is

unable to attach to the*p+50Y*p0Xoperator locus. RNA-polymerase molecules can

then transcribe*p+50Y*p0Xinformation, and subsequent translation produces the

inducible*p+50Y*p0Xenzyme.*p+50Y*p0XAnother controlling element in this system,

called the promoter *p+50Y*p0Xlocus, is the site of attachment of the

RNA-polymerase prior to *p+50Y*p0Xtranscription. The speed with which

RNA-polymerase molecules*p+50Y*p0X *p+50Y*p0X *p+50Y*p0XCopyright (c) 1994

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*p+51Y*p0XOPERON*p+50Y*p0X *p+50Y*p0Xattach to the promoter locus determines the

rate of production*p+50Y*p0Xof messenger RNA (mRNA) and subsequently of

enzymes.*p+50Y*p0X *p+50Y*p0XRepressible Enzymes*p+50Y*p0X *p+50Y*p0XThese

enzymes are involved in the cell's synthetic process and*p+50Y*p0Xare produced

only when the protein that they help metabolize is *p+50Y*p0Xlacking. As an

example, the enzymes involved in synthesizing the amino acid histidine are produced only when the amount of free histidine in the cell is drastically reduced. In the presence of free histidine enzyme production stops. The operon model of gene regulation for repressible enzymes has one important difference from the inducible enzyme system. In the repressible system the repressor substance (R), produced by the regulator gene (i), cannot attach to the operator locus (O+) if the end product, known as corepressor (CR), is absent. Therefore, if the corepressor is absent, transcription and subsequent translation occur. Whenever the end product is present it combines with the repressor substance to form a molecule that can attach to the operator locus and terminate transcription. The functioning of the promoter locus is the same for both inducible and repressible enzyme synthesis. Gene Regulation in Eukaryotes Gene regulation in eukaryotes (see EUKARYOTE)--such as protozoa, molds, and all higher organisms--does not appear to allow the simple operon model, and no other general pattern of gene regulation has been found. In many higher organisms hormones determine development and function; here too, however, no consistency of action is observed. For example, steroid hormones enter the cell, pass into the nucleus, and produce their effects by turning on the transcription of specific genes, whereas the peptide hormones remain on the surface of the cells and produce their effects through the activation of preformed genes. Human hemoglobin provides a very complicated instance of gene regulation. Each hemoglobin molecule consists of two pairs of polypeptide chains. In early embryonic development the two types of chains are zeta and epsilon, but at about eight weeks after conception their production is terminated and two other types, called alpha and gamma, are produced. At birth, gamma production is replaced by production of so-called beta chains. Copyright (c) 1994 Grolier Electronic Publishing, Inc. All rights reserved.▲

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 OPERON for the rest of the individual's life, but alpha chains continue to be formed. Despite much research, neither the programming of the hemoglobin types nor their significance is yet known. Louis Levine Bibliography: Levine, Louis, Biology of the Gene, 3d ed. (1980); Stent, Gunther, and Calendar, Richard, Molecular Genetics: An Introductory Narrative, 2d ed. (1978); Watson, J. D., et al., Molecular Biology of the Gene, 2 vols. (1987).
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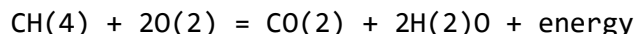
NUCLEAR ENERGY

Nuclear energy refers to the energy consumed or produced in modifying the composition of the atomic nucleus. The force that arms the ATOMIC BOMB and HYDROGEN BOMB and other NUCLEAR WEAPONS, nuclear energy also powers electricity-generating plants in countries throughout the world. It is seen by many as the source of inexpensive, clean power; but, because of the hazardous radiation emitted in producing that power and the RADIOACTIVITY of the materials used, others feel that it may not be a viable energy alternative to the use of fossil fuels or solar energy.

This article discusses the science involved in the release of nuclear energy, and the use of that science by the industries that produce electric power. The process by which nuclear-based electricity is produced is examined in NUCLEAR REACTOR, as are some of the safety issues involved. The unwanted byproducts of nuclear energy production are described in NUCLEAR WASTE.

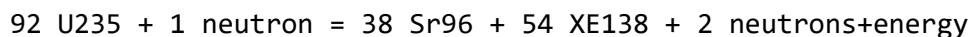
BASIC SCIENTIFIC DEFINITIONS

The processes that change the state or composition of matter are inevitably accompanied by the consumption or production of energy. Common processes such as combustion produce energy by the chemical rearrangement of atoms or molecules. For example, the combustion of methane (natural gas) is represented by the chemical reaction



For this example the energy release is 8 electron volts (ev). The electron volt is a unit of energy used by nuclear physicists and represents the gain in kinetic energy when an electron is accelerated through a potential drop of one volt.

The most well-known nuclear reaction is fission, in which a heavy nucleus combines with a neutron and separates into two other, lighter nuclei. A typical fission reaction involving uranium-235 is



where the energy release is about 200 million electron volts (meV), a factor of 25 million greater than the combustion

reaction of methane (see FISSION, NUCLEAR).

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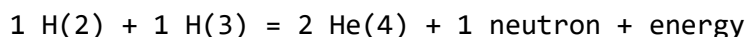
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NUCLEAR ENERGY

Another important nuclear reaction is fusion, in which two light elements combine to form a heavier atom. An important fusion reaction is



where the energy release of the reaction is 18 million eV (see FUSION, NUCLEAR).

Nuclear power plants harness the enormous energy releases from nuclear reactions for large-scale energy production. In a modern coal plant the combustion of one pound of coal produces about 1 kilowatt hour (kWh) of electric energy. The fissioning of one pound of uranium in a modern nuclear power plant produces about 3 million kWh of electric energy. It is the incredible energy density (energy per unit mass) that makes nuclear energy sources of such interest.

At present, only the fission process is used in the commercial production of energy, usually to make electricity, but also occasionally to produce steam for district heating or industrial applications. Fusion research has not yet produced a feasible power production technology (see FUSION ENERGY).

DEVELOPMENT OF FISSION TECHNOLOGY

The discovery of the fission process occurred in the late 1930s, the result of a long sequence of nuclear physics studies. The German scientists Otto HAHN and Fritz Strassmann reported on an experiment involving neutron irradiation of uranium in early 1939. Subsequently, Otto Frisch and Lise MEITNER interpreted the experiment as the fissioning of uranium into lighter elements. The possibility of a self-sustaining chain reaction was apparent, and provided added impetus for accelerated research.

Secret government research into the military applications of nuclear fission began with World War II (see MANHATTAN PROJECT). The development of a weapon required that a

self-sustaining fission reaction could be created and, further, that an adequate amount of fissionable material could be produced for use in a weapon. On December 2, 1942, at the University of Chicago, a team under the direction of Enrico FERMI successfully brought the world's first reactor to a

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NUCLEAR ENERGY

self-sustaining, or "critical," state. The reactor was fueled with natural uranium imbedded in graphite blocks. The fissioning occurred in the isotope of uranium, U-235.

Natural uranium contains only 0.7% of U-235, while the remaining 99.3% of the uranium is U-238, which does not fission except with very high energy neutrons not available from the fission process. In making a bomb, it was necessary to provide much higher concentrations of U-235, or "enriched uranium," and ultimately, a form of gaseous diffusion was used to separate U-235 from U-238. A significant part of the Manhattan Project was devoted to developing a processing technology to separate U-235 from U-238. Ultimately, the solution was found in a form of gaseous diffusion that was used to separate the two materials. An alternative pathway to obtaining weapons material is to use a different fissionable nucleus. Such a material is the synthetic isotope of plutonium, Pu-239, formed when U-238 reacts with neutrons to produce U-239. U-239 is radioactive and decays in two steps to produce Pu-239. In order to produce plutonium, however, a large reactor is needed to irradiate the U-238.

Once Fermi had demonstrated that a critical reactor was feasible, a major effort was undertaken to build reactors to produce plutonium. The first such reactor, in Oak Ridge, Tennessee, was followed by large-scale plants in Hanford, Washington. The technology required to design, build, and operate these plants was developed in a remarkably short time--less than three years--and the knowledge created was the driving force behind the realization of the potential of nuclear energy in the commercial world.

The concept of an energy source that promised extended naval voyages without refueling was obviously worth investigation. Under the direction of Hyman RICKOVER, a naval reactor program began in the late 1940s and the first nuclear submarine, the

NAUTILUS, was launched in 1954. An outstanding success, the Nautilus proved the merits of nuclear propulsion for naval vessels. Its reactor was the prototype for the first commercial nuclear power plant, built in Shippingport, Pennsylvania, in 1957.

The decision to declassify much nuclear-related information in order to foster peaceful applications was made by President Dwight D. Eisenhower and announced in his "Atoms for Peace"

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NUCLEAR ENERGY

speech at the United Nations in December 1953. Other nations joined in the search for peaceful uses for the atom, and the first international conference on nuclear energy was held in Geneva in 1955. In the United States the Atomic Energy Commission--founded in 1946 to oversee civilian uses of nuclear power--sponsored research on a host of reactor concepts that led to the birth of the civilian industry. Britain entered into the production of nuclear-fueled electricity in 1956. The first Soviet nuclear power plant came on line in 1954, and the French began construction of their first commercial plants in 1957. By the early 1960s nuclear power had been established as a viable commercial energy source.

NUCLEAR ENERGY TODAY

In the 50 years since the discovery of fission, nuclear power has become a major source of the world's electric energy. At the end of 1989 there were 416 nuclear plants operating worldwide, generating about 17% of the world's electricity, with another 130 in the design or construction stages. Nuclear plants operate in 27 nations, and 5 additional nations have them under construction.

The nuclear energy program in the United States is the world's largest: 108 operating plants (1989) have a capacity of about 100,000 MW and provide nearly 20% of U.S. power generation. Nuclear power is now the second largest source of U.S. electricity, exceeded only by coal, which provides about 55% of the country's electricity. Other contributors to electric generation include natural gas (9%), oil (6%), and hydropower (9%). The nuclear fraction is expected to reach about 25% during the 1990s.

In general, nuclear plants are more complex and costly to build than plants using fossil fuels--although the cost of fuel for nuclear plants is significantly lower. On balance, the fuel cost difference is such that nuclear electricity is cheaper than fossil electricity for most nations. For the industrialized countries of Europe and Asia the difference in cost may be as large as a factor of two.

The French Nuclear Program

The French nuclear program was begun in the 1940s in order to create a nuclear weapons capability. As in the U.S. program,

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the first French reactors were built for plutonium production. The first French commercial units, which used air as a coolant, were in operation by 1957. Their operation was a technical, but not an economic, success. As a result, in 1970, the French adopted the U.S. light-water technology. Subsequently, the French have built 54 domestic reactors with 9 more under construction. The French standardized their designs to improve the efficiency of construction and operation. They have also built units for Belgium, South Africa, South Korea, and China.

The Japanese Nuclear Program

The Japanese also have a vigorous and successful nuclear program. Lacking any significant indigenous energy resources, in 1955 the Japanese government selected nuclear power as its major electric-supply technology. The program has carefully nurtured the internal capability to manufacture equipment and construct nuclear plants, to operate a high-quality power system, and to provide complete technology for the entire fuel cycle. The utilities in Japan have become leaders in plant operation; and by 2020 the nuclear-fueled portion of Japan's electric supply is expected to exceed 50 percent. In the future the Japanese plan to exploit the potential of BREEDER REACTORS, which convert nonfissionable U-238 into fissionable plutonium-239. A successful breeder reactor program could eliminate Japan's need to import any fuels for the production of electricity. To date, however, the cost of electricity from breeders exceeds the cost from conventional light-water

reactors. The Japanese long-range policy assumes that uranium fuel will ultimately become scarce, making the breeder technology economical.

The Slowdown in Other National Programs

Nuclear power programs in most other countries have come to a virtual standstill. (In the United States there has not been an order for a new plant since the mid-1970s.). A major cause has been the move toward increased efficiency in the consumption of oil, and a drop in energy demand. Equally significant have been concerns about the safety of nuclear reactors and in increasing awareness of the problems created by nuclear waste.

Public opinion remained largely favorable toward nuclear energy until the Three Mile Island (TMI) reactor accident in the

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spring of 1979. The accident began with the failure of some of the plant hardware. By itself, the failure would not have caused serious damage to the reactor, but a series of mistakes in interpreting the condition of the reactor led to more mistakes, which removed reactor coolant and caused a sizable portion of the fuel to melt. Although there was extensive damage to the reactor, the containment system functioned, preventing the release of much radioactivity to the environment. Nevertheless, there was widespread apprehension for several days among the nearby population. The events at TMI captured the attention of the world, dominated the media for days, and caused a historic shift in attitudes toward nuclear power.

The accident also had serious impacts on the licensing of new plants. Regulations were drastically modified to prevent a recurrence of the events of TMI. The modifications complicated the construction of new plants as well as the operation of existing plants. Construction times expanded from about 6 years to more than 12 years, and plant costs accelerated rapidly because of the new requirements.

Another factor contributing to the stagnation of new construction was the intervention by anti-nuclear groups in

licensing proceedings for new plants. Such intervention has proven to be time consuming and costly to the industry, particularly for those plants in the late stages of construction, when interest costs mount on the billions that have been borrowed. The Shoreham (New York) and Seabrook (New Hampshire) plants are notable examples of cost overruns, caused in part by completion delays.

Although few other countries permit the extent of public intervention in licensing hearings that is allowed in the United States, all the major nuclear nations impose strict regulations on their nuclear energy plants. Nevertheless, studies indicate that, for the most part, the U.S. industry performs far less efficiently than do those in Switzerland, Germany, France, and Japan. A key factor in their superior performance may be the cooperation that exists between the industries and their suppliers and regulators--a cooperation that, until recently, was not apparent in the United States.

In its early years, nuclear power was cost competitive with coal. Some of the cheapest sources of electricity in the

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United States today are nuclear plants built in the period before TMI. The current environment, however, has made nuclear power an uneconomical choice for U.S. utilities.

Chernobyl

The accident in April 1986 at the CHERNOBYL plant in the USSR was as devastating as a nuclear accident can be. A very large amount of radioactive material--between 30% and 50% of the total material in the reactor--was released. Radioactive fallout from the event spread, forcing the long-term evacuation of over 100,000 local people and causing the pollution of foods in large portions of Europe.

The Chernobyl reactor design uses water as a coolant and graphite as the moderator. This type of reactor is known to be hazardous and is used only in the USSR. (Such a design would not be licensed in the Western nations.) Nevertheless, the accident has profoundly influenced worldwide public acceptance of nuclear power. It is too early to know whether or not the

Chernobyl accident has permanently crippled the future of nuclear power in industrialized countries.

Kent F. Hansen

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NUCLEAR MEDICINE

The use of isotopic or radioactive tracers to diagnose or treat disease is the branch of RADIOLOGY known as nuclear medicine. These radiographic techniques are valuable aids to and sometimes superior to X rays. Because of the very small amounts of radioactive substance utilized, patient exposure to radiation is usually minimal.

Both diagnostic studies and radiotherapeutic treatments may be performed using radioactive materials in a variety of pharmaceutical forms. Tiny amounts of compounds "tagged" with radioactive isotopes are introduced into the body either orally or by injection into a vein. These substances travel through the bloodstream to the specific organ or type of tissue being evaluated. The radiation that is released by the isotopes is detected by devices called scintillation cameras. Computers convert the data from these cameras to images that allow

visualization of parts of organs that are not usually seen by normal X rays. By tracking how and where the radioactive compounds go, the nuclear-medicine physician is able to gain information about biological processes, such as in a heart scan, which determines if any areas of the heart are not receiving sufficient amounts of blood. Also, a therapeutic dose of radiation can be delivered to a specific organ for treatment, for example, radioactive iodine for thyroid disorders.

Some examinations involve collecting specimens of blood, stool, or urine and measuring the radioactivity in them. In a radioimmunoassay a radioactive substance is placed in a blood sample to detect minute amounts of specific substances, such as antigens or hormones. WILLIAM M. GREEN, M.D.

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NUCLEAR PHYSICS

Nuclear physics is the study of the properties of the atomic nucleus (see ATOM). The nucleus, centrally located in the atom and surrounded by electrons, is composed of NEUTRONS and PROTONS, which current theory holds are themselves composed of QUARKS (see FUNDAMENTAL PARTICLES). Collectively called nucleons, they are bound tightly by the strong nuclear force (see FUNDAMENTAL INTERACTIONS). The experimental tools of nuclear physics are particle ACCELERATORS and DETECTORS. Applications of nuclear physics include NUCLEAR ENERGY (see also FISSION, NUCLEAR; FUSION, NUCLEAR), NUCLEAR WEAPONS, and the use of radioisotopes in industry and medicine (see NUCLEAR MEDICINE; RADIOLOGY).

Nuclear Properties

A specific kind of nucleus is designated by writing A over Z X. Here X is the chemical symbol of the element, Z is the ATOMIC NUMBER (the number of protons in the nucleus), and A is the MASS NUMBER (the combined number of protons and neutrons). Nuclei with the same number of protons but different numbers of neutrons are called ISOTOPES of one another. Nuclei containing certain numbers of protons or neutrons are particularly stable. The values of these numbers, called magic numbers, are 2, 8, 20, 28, 50, 82, and 126.

The properties of a nucleus include MASS, charge, size, shape, spin, and MAGNETIC MOMENT. The positive charge on the proton is of exactly the same magnitude as the negative charge on the electron. The mass of a nucleus is approximately the sum of the free masses of its particles. The attractive nuclear force, however, causes a small decrease in mass, called the MASS DEFECT (see BINDING ENERGY). The size of a nucleus is determined by bombarding it with some other particle and measuring its CROSS-SECTION by the probability of collision. The radius of a nucleus has been determined to be about $1.3 \times 10^{-13} A^{1/3}$ cm, where A is the mass number.

Neutrons and protons have spins, and their motions within the nucleus may contribute orbital angular momentum. The orbital angular momenta and spins of the nucleons combine according to the rules of QUANTUM MECHANICS to give the total spin of the nucleus. The rotation of the electrical charge of the nucleus creates a magnetic field. The field's strength is the magnetic moment of the nucleus. A nucleus is usually approximately spherical in shape, but some are ellipsoidal.

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Nuclear Structure

The motions of the particles within a nucleus determine its properties. They cannot be calculated exactly, so physicists have invented simplified models from which properties can be predicted. One model assumes that the nucleus is similar to a charged liquid drop. The mass of a given isotope is primarily

the sum of the free masses of its nucleons. Corrections are calculated for the nuclear binding, the surface tension of the drop, and the electrostatic repulsion of the protons in the nucleus, taking note also of the excess of neutrons over protons, and whether the nucleon number is odd or even. The resulting formula can be adjusted to fit closely all the measured masses of the known isotopes.

Some nucleus properties are explained by the shell model, which assumes that each nucleon moves in an average field created by all the other nucleons. Its permitted orbits, or energy levels, are then calculated by quantum mechanics. Corrections are made for the spin-orbit force, which depends on whether a nucleon's spin is parallel or opposite to its orbital angular momentum. The shell model permits the calculation of the energies of many excited levels of nuclei and the way in which the spins and angular momenta of the individual nucleons combine to give the net spin of the nucleus.

Energy levels of some nuclei exhibit patterns of regularity. In the collective model of the nucleus, these properties are assumed to be determined by the motion of the nucleus as a whole. Finally, the unified model of the nucleus combines the effects of the collective and shell models to provide more comprehensive agreement with experimental observation.

Nuclear Reactions

When nuclei collide, the interaction may result in products different from the initial nuclei. The total momentum and angular momentum, however, must remain the same after the reaction. The total number of nucleons also remains unchanged, as does the total electric charge (see CONSERVATION, LAWS OF). A small but significant amount of mass (up to 1%) may be transformed into energy, or vice versa, during a reaction, but the total mass-energy is conserved as well. The conversion factor for mass into energy is the square of the velocity of light, as in $E = mc^2$, where c is the velocity--an extremely

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large number (see RELATIVITY).

In Niels BOHR's model of nuclear reactions, a bombarding particle penetrates a nucleus to form an intermediate compound

nucleus that lasts only long enough for the energy and momentum of the incident particle to be shared among all the nucleons. The system decays by emission of neutrons, protons, and other particles, referred to as evaporated particles. If a given compound nucleus is formed by different bombarding particles and target nuclei but at the same total energy, the products of the reaction remain the same.

In the direct interaction model, the incident particle is assumed to pass through the target nucleus relatively freely and to interact directly with only one or a small number of nucleons. The struck particle is ejected from the nucleus, and the incident particle may also reemerge. At high bombarding energies the incident particle may leave residual energy for compound nucleus evaporation products or may eject sizable fragments from the target. These latter are called spallation reactions, meaning the fragmentation of the nucleus.

Nuclear Forces

The strong nuclear force, carried only by the neutron and proton, is the strongest force known in nature. Its range is about one fermi, a distance of 10^{-13} cm. It weakens rapidly with distance and has little effect more than a few fermis from a nucleus. On the other hand, at distances smaller than about 0.4 fermi it becomes strongly repulsive. This region, called the hard core of the strong nuclear force, is responsible for the constant density of nuclear matter.

The weak nuclear force is involved in nuclear decay processes and in interactions involving the fundamental particles called NEUTRINOS. No complete theory combining the fundamental forces has yet been developed, but current theoretical work in particle physics is attempting to devise GRAND UNIFICATION theories that will do so.

William J. Knox

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NUCLEAR REACTOR

A nuclear reactor is a device in which a controlled nuclear fission chain reaction takes place. The fission reaction is initiated by the absorption of a neutron in a heavy nucleus such as uranium-235 (U-235). The process produces additional neutrons that can be used to induce further fissions, thereby propagating the chain reaction. When the reactor materials are appropriately adjusted, it is possible for the chain reaction to be self-sustaining. Such a reactor is called "critical." If there are insufficient neutrons being produced to sustain the process, then the reactor is "subcritical." Conversely, if too many neutrons are being produced, the reaction rate increases with time and the reactor is called "supercritical" (see NUCLEAR ENERGY).

Nuclear reactors are most commonly used to produce electric energy, although they are occasionally used as sources of thermal energy for heating. They are also designed as sources of neutrons used in research or for the transmutation of elements. Reactors designed to produce materials for nuclear weapons by transmutation are called production reactors.

Numerous devices use nuclear processes other than fission as their energy source, although these devices are not called nuclear reactors. For instance, power supplies on spacecraft use the energy from radioactive decay, and hence are called "radioisotope power supplies." Similarly, devices based on the fusion process are called "thermonuclear" or "fusion" reactors.

FISSION CREATION AND CONTROL

The energy released in the fission process takes several forms. Almost 85% of the energy produced is kinetic energy of the fission fragments. About 3% appears as the kinetic energy of the neutrons released, and another 3% as gamma-ray energy. All of the energy from these sources is released immediately and can be recovered from the reactor. A small amount of energy, about 5%, is carried away by neutrinos, which do not interact readily with matter. This fraction of the energy is lost from the reactor. Finally, about 6% of the total energy is obtained from the decay of radioactive fission fragments. This delayed source of energy plays a significant role in the safety of nuclear reactors. Long after the fission process has been shut off, the inventory of accumulated fission products will continue to produce energy. It is essential to cool the reactor to prevent overheating.

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LIGHT WATER REACTORS

The typical U.S. power reactor is termed a light-water reactor (LWR) because it uses water in the form of H_2O as a moderator and coolant. Another type of power reactor uses a type of water in which the hydrogen has been replaced by deuterium -- D_2O --as a moderator; it is called a heavy-water reactor.

The design characteristics stem from a set of physical, engineering, and economic constraints. The physical aspects of the design seek to provide the nuclear fuel and other constituents so that a safe and controllable reactor can operate at the desired power level for an extended period of time. The engineering aspects of the design seek to convert the fission energy into a useful form of heat, usually high-pressure steam, to drive a turbine which is connected to an electric generator. The economic aspects of the design seek to optimize the physical and engineering design so as to minimize the cost of energy from the plant. Typically, it is possible to provide a range of options in design that are satisfactory from the technical view. The final choices rest with the relative economics of the various options.

Reactor physicists are primarily concerned with finding means to promote the fission reaction so as to keep the reactor critical. This implies a careful balance between the neutron production rate (the fission rate) and the neutron loss rate. Neutrons are lost via two mechanisms: they may be captured by nuclei that do not fission, or they may simply migrate out of the region containing nuclear fuel.

The core of a reactor is the region that contains the nuclear fuel. Neutrons from the fission process are born with relatively high energy. However, the probability of a neutron causing a fission in the fuel nuclei is much larger for low energy neutrons than for high energy neutrons. In order to slow neutrons down, it is common to surround the fuel with a moderator. Neutrons can interact with nuclei much like collisions between hard spheres. The neutron will lose energy most efficiently, i.e., in fewest collisions, if the moderator nuclei are close to the mass of the neutron. Thus, moderators are made from light materials such as hydrogen in water,

deuterium in heavy water, or carbon in graphite. The physical arrangement of the fuel and moderator is a major element of reactor physics.

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The LWR uses H_2O as the moderator and uranium dioxide, UO_2 , as the fuel. The fissionable isotope of uranium is U-235, which makes up only 0.7% of natural uranium. It is not possible to design an LWR that uses natural uranium. In order to increase neutron production, the U-235 concentration in the fuel is increased. Such fuel is called "enriched."

Fuel for an LWR has a relatively simple structure. Uranium is pressed into small cylindrical pellets that are stacked in zirconium alloy tubes--the "cladding"--about 3.05 m (10 ft) in length. The tubes are arranged in a "fuel assembly," a square array containing about 17 tubes on a side. A modern pressurized water reactor has about 200 fuel assemblies in its core.

Reactor control is achieved by carefully balancing the neutron production rate by fission with the neutron loss rate. The common process for obtaining control is to adjust the amount of neutron absorber in the core. Control materials are placed in rods with the same dimensions as fuel rods and the set of control rods are inserted in the middle of a fuel assembly. The control rods are attached to a drive mechanism that moves the control rods into or out of the core region. A typical set of control rods contains materials that are highly absorbent to neutrons such as silver, indium, and cadmium. The control rods are inserted into the core when reactor shutdown is desired. The rods are also inserted automatically in the event that unexpected conditions are detected.

The core, including fuel assemblies, control rods, and moderator, is a very large system on the order of 3.65 m (12 ft) diameter and 3.65 m high. The entire assemblage fits into a 12-m-high (40 ft), thick-walled steel pressure vessel, designed to withstand very high pressures, up to 2,500 psi. For LWRs, water is both the moderator and the coolant, that is, the agent used to remove fission energy from the core and transfer it to the electric generating segment of the system.

In the pressurized water reactor (PWR)--a type of LWR--water is heated to a high temperature without boiling, by keeping the system under very high pressure. Water is piped into the pressure vessel and flows down the vessel sides to a region below the core. It then flows up through the core, gaining heat while keeping the core cooled. The heated water flows

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through pipes to a steam generator. The sets of pipes and associate pumps are called "loops." Typically, a large PWR has 4 loops.

In the primary loop, hot water from the core flows through a steam generator, where it exchanges heat with water in a second loop. Second-loop water, under lower pressure, will boil and produce steam, which in turn is fed to turbines to drive a generator. The primary water returning from the steam generator is pumped through the reactor core again. In passing through the core region, the primary water is subject to neutron irradiation, and some of its constituents will become radioactive. Further, small amounts of activity are scrubbed off the cladding material and other internal parts of the reactor. As a result, primary water is contaminated with radioactivity. It is very important that this water be kept apart from the plant operating staff. The shielding of the entire vessel and its internals, the coolant loops, and steam generator is accomplished by keeping all of these components inside a very large concrete shell called the containment building. The large spheres of containment buildings are characteristic features of nuclear power plants. The steam from the secondary side of the steam generator is not radioactive; it flows through the containment walls to an auxiliary building that houses the turbine and generator. The turbine, generator, condenser, pumping equipment, and transformers make up the balance of the plant, and are like those of a conventional energy plant.

OTHER REACTOR TYPES

The pressurized water reactor is the most common type of nuclear reactor used for the generation of electric energy. Over one half of all nuclear power reactors in the world are

PWRs. The second most common reactor is also moderated and cooled with light water. This is the boiling water reactor (BWR), in which the coolant is permitted to boil within the reactor core. The steam emerging from the core is sent directly to a turbine rather than through a steam generator. The BWR has somewhat less equipment that must be held within the containment building and hence they are slightly smaller than PWR containments. The steam that enters into a BWR turbine is radioactive, however, and slightly contaminates the turbine. There are other small differences in detail between the two types of LWRs, but the major components such as the

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vessel, fuel, control rods, coolant loops, etc., are quite similar in function. The characteristics of the two types of plants have so much in common that several utilities own plants of both types.

Reactors that use various gas coolants, rather than liquids, are collectively called gas-cooled reactors. The first plants of this type were built in Great Britain and France. The commercial versions used CO_2 as a coolant and graphite for moderation. The designs are significantly different from those of LWRs. The fuel is usually uranium, but it is implaced in steel tubes that are in turn imbedded in graphite blocks. There are channels through the graphite for the coolant gases to pass. Typically the gaseous coolant can be heated to a higher temperature in a graphite reactor than one containing structural metals such as steel or zirconium. The heat is again transferred through a steam generator to produce steam to drive a turbine. Because the coolant is at a high temperature the quality of steam produced in the steam generator is very high. Overall, gas cooled reactors tend to have a higher thermodynamic efficiency than LWRs. In spite of the thermodynamic advantages of the gas reactors there were other problems, including economic ones, that led to the economic demise of these plants. One major problem was the corrosion the hot gases caused in various surfaces of the reactor and steam generator. A second factor was the cost of constructing such systems. They tended to be very large in volume, requiring a great deal of material and high labor costs. In the early 1970s the French shifted their emphasis to the LWR technology. Great Britain made a similar decision in the

mid-1980s.

A different type of gas-cooled reactor has been under development in Germany and the United States and is called the high temperature gas-cooled reactor, or HTGR. The significant change from earlier gas reactors is the adoption of helium as the coolant gas. Helium is chemically inert, and as a result causes little corrosion. The fuel has the uranium imbedded in graphite rather than steel, thus the system can operate at very high temperatures, which promotes thermodynamic efficiency. A few HTGRs have been built to demonstrate the technology. The economics of large plants has not been demonstrated.

There is a move toward building small HTGRs, called modular HTGR or MHTGR. It has been suggested that a small plant can be

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manufactured in a fabrication plant rather than in the field. Simplified installation of such systems should reduce costs. Further, if the module is small enough there will be important safety advantages to the system. Graphite has a very high heat capacity and melts at extremely high temperatures. If the decay heat stored in a core is sufficiently small, it is possible for an HTGR to withstand any accident that prevents coolant from reaching the core. Such a reactor may be genuinely "walkaway safe," i.e., no human intervention would be required to prevent an accident that could release radioactivity. A final argument made for the modular reactor is that the total plant size can be increased in increments as the power demand increases. Thus, the financial commitments can be kept small if the electric demand stops growing. The few HTGRs built to date are not sufficient to demonstrate the economic or safety advantages anticipated for the MHTGR.

All the reactors mentioned above are known as thermal reactors because the moderation slows the neutrons down to reach thermal equilibrium with the moderator. An entirely separate class of reactors are the "fast" reactors, in which there is no effort to moderate neutron energy.

The chance of a fast neutron causing a fission is much lower than that of a thermal neutron. However, if fast neutrons do cause a fission, more neutrons emerge, and in a carefully

designed system, the excess number of neutrons can be greater than one for each fission. The excess neutrons can be used to transmute nonfissionable species into fissionable species. The most common example is the transmutation of uranium 238 into plutonium 239. Under appropriate conditions it is possible to produce more fissionable material than is consumed in operating the reactor. Thus, it is possible to breed fuel at a faster rate than it is being consumed. Such reactors are called "breeders", and they have been built and demonstrated in the United States, Great Britain, France, Germany, the Soviet Union, and Japan. The largest such plant is a 1200 MW commercial plant in France called "Superphoenix" (see BREEDER REACTOR).

The breeders demonstrated to date have used liquid sodium as a coolant. The plants are called liquid-metal cooled fast breeder reactors, or LMFRs. The core is made of uranium and plutonium fuel rods, and is surrounded by arrays of rods containing U-238 to be converted into plutonium. This region

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of the reactor is termed the "blanket." Liquid sodium is relatively heavy and does not moderate neutrons very much. Further, sodium is an excellent heat-transfer medium. Results thus far show little corrosion caused by the coolant in operating components such as piping, pumps, or valves.

In spite of their advantages LMFRs have not been economically successful. Part of the reason is that the manufacturing, processing, and handling of plutonium-bearing materials is very costly. Further, the systems tend to be large and their construction requires high material and labor costs. The design is very interesting for the future should uranium ultimately become scarce. In addition, some recent safety experiments have shown these plants to have significant safety features that may make them easy to license and operate.

NUCLEAR SAFETY

As the reactor operates, a large inventory of radioactive isotopes accumulates and represents a unique hazard. Any accident releasing a sizeable portion of these materials would be very serious--as demonstrated by the CHERNOBYL accident. A

fundamental objective of nuclear reactor design is to prevent accidents that could allow the escape of RADIOACTIVITY. In order for fission products to reach the environment several barriers must be overcome. For an LWR, the first barrier is the fuel cladding that contains the fuel as well as the fission fragments. The cladding material is a high-strength alloy of zirconium capable of withstanding high pressures and high temperatures, well beyond normal reactor conditions. The second barrier is the pressure vessel, which is exceedingly strong, but which does have numerous penetrations for the cooling water to enter and exit the vessel. The third barrier is the containment building, which is a large, reinforced concrete building designed to withstand substantial pressure.

In order for any barrier to be breached, the system must first become overheated. There are two possible ways for this to occur. The first is for the fission rate to grow too rapidly for the coolant to remove all of the energy being created. The second is for the coolant system to fail and lose the ability to cool the fuel. Excessive fission energy production is monitored by numerous sensors throughout the core region; if they detect a rapid rate of growth in the fission process, the control rods are automatically lowered into the core to absorb

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the fission products. The reactor shuts down.

There is another important design element that protects against possible nuclear runaways. The heating up of a local region of the reactor would cause the nearby cooling water to boil, thereby reducing the water density through the creation of bubbles, or voids. It is a safety requirement of U.S. reactors that creation of coolant voids must, by itself, reduce the fission rate. The amount of water that surrounds a fuel rod is carefully adjusted so that a void reduces neutron moderation and hence reduces the fission rate. This property is not required in the Soviet Union and is the fundamental reason for the disastrous Chernobyl accident. The basic design of LWRs makes them safe against nuclear runaways. It is not physically possible for a light-water reactor to undergo a rapid power excursion, thus an LWR cannot explode like an atom bomb.

The greatest threat to reactor safety is the loss of coolant accident, or LOCA. The fission process itself ceases if a reactor loses its cooling water because the reactor goes subcritical. However, the fuel continues to heat up due to the stored thermal energy as well as from the decay heat of radioactive fission products. Without any coolant the cladding heats up and ultimately melts. Safety systems have been designed and installed in plants to prevent the clad from overheating by providing emergency cooling water. Such systems are collectively known as emergency core cooling systems, or ECCs. All such systems have multiply redundant pathways for introducing water into the vessel under high-pressure or low-pressure conditions. The state of the system will depend upon the exact cause of the loss of coolant. In the event that one of the large coolant pipes ruptures, the system would depressurize rapidly and emergency water could be injected under relatively low pressure. Conversely, if a very small line broke, or there was a small leak in a large line, the system might depressurize slowly. Thus, it is necessary to have the ability to provide emergency coolant to the system while at high-pressure.

The design of safety systems begins by hypothesizing a number of different failures and then developing systems to mitigate the consequences of these failures. Such failures are known as design basis accidents. In order to obtain a license, a plant must show it is protected against the class of design basis

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accidents. The broad areas of concern include accidents within the plant as well as accidents involving the handling of radioactive spent fuel. Initiating events must include hardware failures, operator failures, and external events such as tornadoes.

REACTOR ACCIDENTS

In spite of the installation of safety systems, there have been notable accidents at nuclear plants. The first serious nuclear accident occurred (1957) in a British weapons production plant, Windscale 1, an air-cooled graphite reactor. During heat-up operations that were conducted to heal defects in the graphite, it caught on fire and melted some of the fuel cladding.

Volatile fission products, most notably iodine and cesium, were released into the environment around the plant. The Windscale plant and its twin unit were shut down and taken out of service.

Three Mile Island

The most serious U.S. commercial reactor failure occurred on Mar. 28, 1979, at the Three Mile Island (TMI) reactor near Harrisburg, Pa. The TMI-2 accident began as a small break LOCA in which a valve stuck open, allowing coolant to escape from the vessel. The emergency core cooling system (ECCS) operated as designed and provided makeup water for the core. Unfortunately, the operators misinterpreted the information available to them in the control room and shut off the ECCS for several hours. The decay heat from the core boiled off the available water in the vessel, and without adequate cooling, the cladding and fuel started to melt. Before the operators resumed the flow of emergency coolant, a sizeable portion of the core, about one-half to one-third, melted. The molten fuel and cladding dropped into the bottom of the vessel, which was full of water. This water was adequate to quench the molten material. The vessel itself maintained its integrity and kept all of the debris contained.

A sizable amount of gaseous fission products escaped from the vessel through the open valve into the containment building. The containment functioned as the ultimate barrier and prevented a release into the local environment. The small amount of activity that did escape was carried by coolant water that leaked out the valve into the containment and then overflowed into an auxiliary building where the gases leaked

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into the environment. The releases were almost entirely noble gases (such as xenon), which are chemically inert and not retained within the human body. The health effects of the accident proved to be quite small, and virtually undetectable against the normal incidence of background radiation.

Chernobyl

The accident at Chernobyl Unit 4 in in the USSR in April 1986 has been the most serious of all nuclear accidents to date.

The reactor involved was a water-cooled, graphite moderated reactor, which is used simultaneously for power and plutonium production. The fuel is contained in fuel rods which reside in pipes through which the coolant flows. The design is known as the RBMK. As water in the coolant pipe begins to boil, the effect on the fission rate is positive rather than negative (in contrast to the LWR). The boiling creates a void that allows an increase in the number of neutrons that escape into the graphite moderator and become thermalized. When the thermal neutrons return toward the fuel they encounter less neutron-absorbing hydrogen. As a result, a void will lead to an increase in the heating of the water, which in turn creates more voids, and a self-reinforcing nuclear runaway begins. This characteristic of the RBMK was known to nuclear analysts in the Soviet Union as well as the West. The design is not licensable in the Western nations. The Soviet Union accepted the risks because they did not have the technology to build large pressure vessels until the 1960s.

One of the design basis accidents analyzed at all nuclear plants is the "station blackout." The name refers to the loss of an independent electric energy supply to a nuclear plant. Normally, a plant uses large amounts of electricity to power motors, valves, fans, etc., within the plant itself. For a large plant this requirement might be as large as 5% of the plant generating capacity. The output of the plants own generator can be used during normal operations to provide this electricity. However, when the reactor shuts down, an independent source of electricity is required. A station blackout refers to the loss of the independent supply.

All plants are required to have auxiliary systems, such as batteries or diesel generators, to protect the plant in case of a station blackout. It is also a requirement that a reactor must shut down if there is a loss of off-site power, in order

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to reduce total plant electric energy needs.

The accident at Chernobyl occurred while plant operators were conducting an experiment to see how long they could extract electricity from a generator as a reactor shut down. The operators knew that instrumentation would detect a loss of

electric supply to coolant pumps and would automatically start the plant emergency core cooling system. To prevent this from happening and ruining the test, the operators disconnected the ECCS, in violation of standing safety rules. Further, the operators wanted to start the test from low-power conditions, but had trouble adjusting the power level appropriately. To assist in maneuvering the power level they withdrew more control rods than would be allowed during normal operations. By the time the test had begun, the control rods were almost useless. They had a long distance to travel before they could affect the fission rate, and the mechanical design was such that it took them too long to travel into the core and stop the accident.

The operators began the test by stopping the flow of steam to the turbine. Without removal of energy the coolant temperature increased to the point where boiling began and voids formed in the coolant channel. The fission rate then accelerated, producing more energy and heating the coolant further. The operators detected the power excursion, but were unable to insert control rods in time to prevent a massive surge of energy that ruptured the fuel rod cladding and distorted the fuel channels. The ECCS was unavailable to cool the core and reduce the accident consequences.

Some uncertainty remains as to the sequence of events that led to the reactor catching on fire. The generally accepted scenario is that molten fuel came in contact with coolant water and reacted to generate huge volumes of steam that ruptured the piping. Subsequently, a second explosion occurred due to a chemical reaction of the incoming water and the hot metals and graphite in the core. The combination of events broke the barriers containing the fission products and allowed them to escape into the environment.

The RBMK design does not include a Western-style containment building, thus once the fission products escaped from the cooling system they had easy access to the environment. About one-half of the radioactivity released emerged in the first few

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hours of the accident. The remainder escaped over the next ten days as the reactor burned. Only when the core was smothered

in sand and various neutron-absorbing materials did the release cease. Post-accident calculations indicate that a western containment building would have prevented much of the large release of radioactivity.

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NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission (NRC) is an independent U.S. government agency that is responsible for licensing and regulating civilian uses of nuclear materials. Its predecessor, the Atomic Energy Commission, was established in 1946 to succeed the Manhattan Engineer District of the Army Corps of Engineers, created during World War II to develop the atomic bomb (see MANHATTAN PROJECT). The NRC came into existence in 1975 under the provisions of the 1974 Energy Reorganization Act, along with the Energy Research and Development Administration (ERDA). ERDA was later abolished and its functions transferred to the Department of Energy.

The major concern of the NRC is the use of nuclear energy to generate electric power. It licenses the construction and operation of nuclear reactors and other nuclear facilities as well as the possession, use, processing, transport, handling, and disposal of nuclear materials. (The U.S. Department of Energy has authority over U.S. nuclear weapons plants).

NRC policies and practices have drawn fire from various groups concerned with environmental safety. The agency has been criticized for failing to take prompt action where nuclear plants were found to be violating the NRC's own standards; for failing to insure that workers were properly trained; and for lagging in its investigations of mismanagement and criminal activities at nuclear plants.

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NUCLEAR STRATEGY

Nuclear strategy is the art of acquiring, deploying, and using force for political purposes. Because nuclear weapons are so much more powerful than any armaments previously known, their introduction required a rethinking of strategic principles.

Nuclear strategy developed in the shadow of the COLD WAR, a period of continuing political struggle between the United States and the USSR. Although the disintegration of the Soviet Union in the early 1990s ended the cold war, thousands of nuclear weapons still remain, principally in U. S. and Russian hands. This article describes the strategic rationale behind the creation of these weapons and the new problems emerging in the wake of the cold war.

Deterrence

The major political purpose of nuclear weapons, and the centerpiece of traditional U. S. strategy, has been deterrence, or prevention by threat: State A seeks to prevent state B from attacking, by threatening to respond forcefully to an attack. If B takes the threat seriously and refrains from attacking, A's deterrence policy has succeeded. Nuclear weapons lend themselves particularly well to deterrence because they can inflict enormous damage on an enemy. Deterrence thus became the principal--indeed, some have argued, the only--strategic purpose that nuclear weapons serve.

The logic of the nuclear deterrence strategies of the super powers reflects the enormity of the punishment that a nuclear-armed deterrer would be capable of inflicting on the homeland and society of an aggressor. This property was expressed by the phrase "assured destruction," coined in the early 1960s to describe the standard that the U. S. arsenal had to meet. It had to have the capacity to destroy between one-fifth and one-third of the Soviet population and between one-half and three-fourths of Soviet industry in a retaliatory strike, even after absorbing an all-out Soviet attack.

Both the United States and the USSR achieved this capacity in the 1960s. Neither could attack the other without risking an annihilating retaliatory salvo. Theirs became a relationship whose stability was founded on the mutual capacity for assured destruction, the so-called balance of terror. Although in part a deliberate policy, mutual assured destruction (MAD) was

principally a consequence of the weapons that each side had

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acquired. In this MAD situation neither side possessed significant incentives to rush to strike first during times of crises, and both saw war as a tragedy to be avoided.

The easing of cold-war tensions during the later 1980s, the signing (1987) of the Intermediate-Range Nuclear Forces (INF) Treaty, and the continuing U.S.-Soviet negotiations on long-range nuclear missiles seemed to signal the waning of the era in which nuclear deterrence was a central element in world affairs (see ARMS CONTROL).

Nuclear Weapons

At the end of the 1980s the vast majority of the world's nuclear weapons were in the possession of the United States and the Soviet Union. These weapons are classified in a number of ways (see NUCLEAR WEAPON), but the most important distinctions among them involve the delivery systems that carry the nuclear warheads to their targets. Long-range delivery systems, capable of reaching into the adversary's homeland and threatening it with massive destruction, are of three basic types. Manned aircraft carry free-falling gravity bombs. Land-based and submarine-launched intercontinental BALLISTIC MISSILES (ICBMs and SLBMs) are self-powered and self-guided and can reach their targets within 30 minutes. The hybrid CRUISE MISSILE, a small, pilotless drone, can be launched from land, ships, or planes.

In cold-war strategy, delivery systems were often judged by whether they reinforced or undercut the stable mutual deterrence associated with MAD. Systems that possessed the accuracy and yield to destroy the adversary's nuclear weapons and that, if used preemptively, threatened to disarm the adversary and destroy his ability to retaliate, were described as "first-strike" systems. "Second-strike" weapons were those that could survive an adversary's first blow but lacked the accuracy to destroy hardened targets--and which would, therefore, be targeted at enemy cities. Because they would provoke a response in kind, these would be useful only in retaliation, as the agents of assured destruction. Unlike

first-strike weapons, second-strike weapons were therefore seen as contributing to stable deterrence.

Because weapons vulnerable to an enemy's first strike could only be used in a first strike of one's own, the

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invulnerability of nuclear arsenals was a key to stable deterrence. Since submarines cannot be readily tracked and destroyed, submarine-launched missiles were regarded as the least vulnerable part of the superpower arsenals and an important contributor to stability. Missiles deployed on land, even if housed in reinforced concrete underground silos, became increasingly vulnerable as targeting accuracy improved. Because greater accuracy is required to knock out hidden, protected, or mobile missiles than to pulverize cities, highly accurate weapons have been viewed as particularly suited for first-strike attacks.

All of these theoretical distinctions did not, however, translate perfectly into policy. Both the United States and the USSR took steps to improve their capacities for retaliation by reducing the vulnerability of their nuclear weapons. At the same time, both arsenals became steadily more accurate. Yet deterrence produced stability because each side had so many weapons--and so many weapons deployed in relatively invulnerable ways--that in a preemptive strike, neither could hope to knock out all of the other's armaments. Terrible retaliatory punishment still awaited the attacker.

Evolution of Nuclear Strategy

The first atomic bombs, dropped on the cities of Hiroshima and Nagasaki in 1945, were used, like conventional bombs, to crush the morale of the Japanese. In the decade following the end of the war, however, nuclear weapons became more central to U. S. foreign policy, and their strategic purposes began to change. The United States undertook to defend Western Europe and--after the Korean War--a number of Asian countries against Communist attack by threatening a nuclear response, "massive retaliation," to aggression of any kind.

As the USSR built its own arsenal of ICBMs this strategy changed in two ways. First, the U. S. government sought to

protect its nuclear striking force against a Soviet preemptive attack by reducing the vulnerability of its weapons. Second, it sought to develop forces that could resist Communist aggression of all types without resorting to nuclear war. This was the policy of "flexible response": the United States would attempt to halt a nonnuclear attack on itself or its allies with nonnuclear means.

Flexible response was the last major change in U. S.

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strategy, and from the 1960s to the 1980s it remained the official U. S. doctrine. During this period both the United States and the USSR built nuclear arsenals many times larger than needed to guarantee assured destruction. For the United States, the principal reason for this surplus was the need to ensure the "credibility" of its commitment to Asia and Europe. More generally, the U. S. government believed that deterrence would be enhanced if it could match the Soviet Union at every level of force. Thus, one rationale for the controversial land-based highly accurate MX MISSILE was that it would match similar Soviet weapons.

Dilemmas of Nuclear Strategy

In a large-scale nuclear war, each side would suffer such catastrophic destruction that neither could regard the outcome as a victory. To provide any chance for meaningful victory, a nuclear war would therefore have to be severely limited. But the prospects for controlling a nuclear war are at best uncertain. Possibly the combatants would be able to restrain themselves and avoid massive damage. The history of wars between great powers, especially in the 20th century, reveals, however, a willingness to escalate.

Further, nuclear war would certainly create a thoroughly unfamiliar environment, one likely to be more chaotic than any known before. Thus, even if both sides wished to do so, the great nuclear powers might quickly lose the means to limit the war's extent. The electronic-signal-obliterating effects of an ELECTROMAGNETIC PULSE and the disastrous climatic aftermath, worldwide, of the hypothesized "nuclear winter" were other possible catastrophic results of a nuclear conflict.

Nuclear Defense

The stable nuclear standoff between the superpowers rested on the absolute supremacy of each side's offensive capability, the essence of assured destruction. The development of the means to defend against nuclear attack--to destroy the enemy's missiles in flight (see ANTIBALLISTIC MISSILE)--would transform nuclear strategy. On the one hand, it might reduce the effectiveness of an adversary's attempted first strike, as well as offering the hope of surviving a nuclear war. On the other hand, by reducing the adversary's capacity to inflict retribution after being attacked, nuclear defenses might

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destabilize the nuclear balance, increasing the risk that during a crisis one or both sides might choose a preemptive strike. It was for this reason, as well as to prevent an arms race, that the United States and the USSR agreed to severe limits on nuclear defense in the 1972 SALT I agreements.

As a practical matter the task of defense against large-scale nuclear attack is difficult, perhaps impossible, when each side has thousands of weapons that can be launched from different directions, at different speeds, and with decoys to confuse the defense. To stop all of them is unlikely, and, if only one penetrated a defensive system, it could cause catastrophic damage.

Despite its possibly destabilizing consequences, the idea of defense is appealing, and new defensive technologies have constantly been studied by the superpowers. A variety of systems, both ground-based and space-based, are being developed under the U. S. STRATEGIC DEFENSE INITIATIVE (the Star Wars program).

Nuclear Strategy after the Cold War

In June 1992 U. S. president George Bush and Russian president Boris Yeltsin agreed to slash their nations' strategic nuclear weapons arsenals, over a period of ten years, from 22,500 warheads to a combined total of about 7,000. Because they were regarded as the weapons posing the most

danger of a preemptive first strike, the agreement specified the elimination of the multiple-warhead, land-based MIRVED MISSILES deployed by each side. Both sides would continue to possess SLBMs. The effect of the agreement would be to reduce the effectiveness of a surprise attack by either side.

Many of the thousands of warheads designated for elimination are stationed throughout the former Soviet Union, some in the territory of republics other than Russia. Concerns remain about the willingness of these republics to relinquish nuclear weapons. Further, assuming that weapons designated for elimination reach weapons-dismantling plants, there exists the problem of what to do with the tons of enriched uranium and plutonium that remain after dismantling. This material is difficult to use as fuel in nuclear power plants without costly, environmentally dangerous procedures, and there are no ready facilities, either in Russia or the United States, for

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burying it safely.

Strategies to Confront Nuclear Proliferation

Perhaps the most pressing nuclear problem since the ending of the cold war is that of nuclear proliferation. It has become increasingly difficult to prevent advanced Third World states from developing nuclear weapons if they desire them. Attempts to police the use of nuclear technologies and fuels through inspections and controls imposed by the INTERNATIONAL ATOMIC ENERGY AGENCY have been useful in slowing proliferation, but in the end nonproliferation is likely to rest on political judgments--for example, can a nation adequately protect its security without nuclear weapons? Will the political costs of acquiring them be prohibitive?

Thus, with the end of the cold war, nuclear strategy is likely to focus increasingly on the problems of stopping proliferation, deterring aggression by small nuclear powers, and preventing the use of nuclear weapons in regional wars. In the same month that Presidents Bush and Yeltsin concluded their dramatic arms-cut agreements, the United States announced that it would continue to maintain a nuclear force and, to this end, would continue its program of nuclear testing.

Reviewed by Edward Rhodes

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NUCLEAR WASTE

Nuclear waste refers to the entire array of radioactive materials created by all aspects of nuclear technology. The most widely known wastes are those produced by the civilian nuclear industry and the nuclear weapons program. Other sources of nuclear waste include radioactive materials produced for medical, research, and industrial applications, and the contaminated sections of dismantled nuclear facilities.

Radioactive materials all decay by emission of various forms of radiation--gamma rays, alpha particles, electrons, positrons, and neutrons. A decay is characterized by the type of emission, the energy of the emitted radiation, and the rate at which decay occurs. The decay rate is usually measured in terms of the half-life, or the time required for one-half of the radioisotope present to decay. Half-lives for different isotopes may range from less than a millionth of a second to billions of years (see RADIOACTIVITY).

The concern with radioactive materials is that the emitted radiation may interact with the human body and cause damage to

cells. The effects of exposure can vary--from mild, temporary illness to death--and can be immediate or delayed, depending upon the amount of radiation received. Although thresholds had been established below which it was believed that there were no ill effects, the current consensus is that any irradiation will cause cell damage, and hence it should be assumed that there is no threshold (see RADIATION INJURY).

Types of Nuclear Waste

Nuclear wastes are usually characterized by their physical and chemical properties and their source of origin. In the United States all wastes from the nuclear defense program are termed military wastes, and are usually treated separately. Civilian wastes with a low-level of radioactivity are termed low-level wastes. These include slightly contaminated materials from nuclear-power facilities, research laboratories, hospitals, and industrial sites. A large source of low-level waste are mill tailings, the residues of uranium ores that have been crushed, ground and chemically treated to extract the uranium.

The major source of high-level waste, which contains large amounts of radioisotopes, is the spent fuel from nuclear power reactors. The reprocessing of fuel from civilian nuclear plants is the responsibility of the U.S. government, which

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has not yet established a reprocessing program. The spent fuel from military reactors is reprocessed, and the residues of this treatment are also high-level wastes.

The final waste category is called transuranic waste, which includes materials contaminated with man-made radioisotopes created by transmutation of uranium. The most common transuranic is plutonium. The amounts of radioactivity are usually small, but the transuranics emit alpha particles which are particularly hazardous to human tissue. The greatest concern is that transuranic material might be inhaled and lodge in the lungs where it could do great damage.

The total amount of low-level waste generated at a single, large, nuclear-power plant is about 1,000 cubic meters (1,300 cubic yards) each year. The total volume of nuclear-industry

waste generated annually is about 100,000 cubic meters (130,000 cubic yards). Other activities, particularly medical, generate about the same volume each year. Much effort is under way to find means to reduce the volume, either by compaction or by incineration.

A large nuclear reactor discharges about 30 metric tons (33 U. S. tons) of spent fuel each year. The volume of the waste is about 12 cubic meters (15.7 cubic yards), approximately the volume of a standard-size automobile. Total spent fuel production in the United States is about 1,500 metric tons (1,650 U. S. tons) per year, with an accumulated inventory of 15,000 tons.

Nuclear Waste Disposal

The disposal of low-level waste is technically simple since the activity of the material is quite low. A small amount of shielding, such as provided by one meter of soil, is sufficient to protect human beings. The current storage methods are all some form of shallow land burial, and the concern is that water seepage may cause some materials to migrate out--a problem that might be solved by adequate design, management, and monitoring of the site.

In 1980, Congress gave states the primary responsibility for, and regulatory control over, their low-level wastes. The subsequent development of repositories has been a slow process, as states attempt to define appropriate controls.

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High-level waste from spent nuclear fuel is a collection of many different radioisotopes with highly varying half-lives. It would require about 1,000 years for the total level of activity to decay down to the same level as the ore used to produce the fuel. Even after 1,000 years the composition of the fuel would be quite different from the ore and would still require its isolation from human beings.

The scope of the waste program is demonstrated by the situation throughout the U. S. weapons-production system, whose operations, now suspended, are under the control of the

Department of Energy. The Hanford complex in Washington State, and the Savannah River complex in South Carolina, for example, both contain reactors for producing weapons-grade materials and sites for the storage of nuclear wastes. Hanford also processes spent fuel sent to it from other military reactors. The wastes generated by the complexes themselves and the wastes transported to the sites from other weapons-production plants have been stored in shallow burials, in open pits and basins, or in large metal tanks that have begun to leak, contaminating soil and groundwater. Among possible solutions is the incineration at extremely high temperatures of contaminated soils and other solid wastes, producing a vitrified, or glassy, slag that, while still radioactive, can be more safely stored; and the treatment of liquid waste by mixing it with cement and burying it in concrete-lined pits.

Options for long-term storage all involve some form of burial. The concern with all forms of burial is that over long periods of time the enclosing materials will corrode and fail, allowing radioactive material to migrate into the water table or out into the atmosphere. Additionally, ground motion, such as would occur in an earthquake, might allow the escape of radioactivity. It has been suggested, however, that high-level wastes, vitrified at high temperatures or stored in corrosion-resistant canisters, might be placed underground in salt domes, tuff (ancient volcanic ash deposits), or granitic rock. Salt is of interest because the domes are theoretically free of water and should self-seal if disturbed by ground motion. A proposed repository for high-level wastes is in the tuff of Nevada's Yucca mountain--although doubts about possible volcanic activity in the region have delayed final decisions.

Granite formations are good potential sites because of the rock's low permeability and porosity, and its very high thermal

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conductivity--an important consideration, since it suggests that temperatures near the stored wastes would not rise so high as to promote container failure but would instead be absorbed by the surrounding rock. There is some uncertainty about granite fracture characteristics under stress and the likelihood of water intrusion. Several European countries, however, appear to favor storage in granite formations.

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EPIDEMIOLOGY

{ep-i-dem-ee-ahl'-uh-jee}

Epidemiology, traditionally, is the description of epidemics, which are occurrences of diseases that significantly affect

various groups of people. It studies such factors as an illness attack rate, which describes the number of people ill in a population at risk of being ill. Historically, epidemiology has been applied to studies of INFECTIOUS DISEASES, but in more recent times epidemiologists have also studied major noninfectious diseases, such as cancer and heart disease, and other important health problems (see ENVIRONMENTAL HEALTH). Pandemics are epidemics that encompass large regions or large numbers of people (see PUBLIC HEALTH).

Investigators using epidemiologic techniques have been able to describe diseases in great detail years before the causative agent was identified. In 1854, John Snow investigated and described an epidemic of cholera in London, which he determined resulted from contaminated water from one well. Snow's investigation of the cholera epidemic occurred years before the identification of the bacillus that causes cholera. More recently, epidemiologic studies resulted in detailed descriptions of hepatitis, Lassa fever, Legionnaires' disease, and toxic shock syndrome before their causative agents were identified. The correlation between smoking and lung cancer was obtained from epidemiologic studies, as well. Much epidemiological research is now devoted to AIDS (see AIDS).

Epidemiology involves various techniques, the foremost being the descriptive approach, in which the disease or situation is defined in terms of time, place, and person. Long-term and short-term trends in the occurrence of the disease are considered. The geographic area where the causative agent and the ill person had contact is noted; for example, someone may eat a contaminated meal in a restaurant and become ill the next day at home, but the contact point was the restaurant. The patient's age, sex, socioeconomic status, occupation, nutritional status, and other factors are also recorded.

In an epidemiologic investigation, the existence of an epidemic first must be confirmed by examining individual cases and verifying the diagnosis. The number of cases is then estimated, and the clinical data are collected and analyzed. A case definition is developed that is then used to identify other cases. Appropriate laboratory specimens are obtained and

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processed, and the data are analyzed in terms of time, place, and person. The source of the causative agent, its mode of transmission, and the risk factors that explain why certain people became ill and others did not are determined. A hypothesis is formulated as to why the outbreak occurred, and specific investigations are conducted to prove or disprove the hypothesis. Once the cause of the outbreak is identified, appropriate control and prevention measures are usually instituted. Such public-health organizations as the CENTERS FOR DISEASE CONTROL and the WORLD HEALTH ORGANIZATION investigate and attempt to control epidemics. PHILIP S. BRACHMAN, M.D.

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ENVIRONMENTAL HEALTH

The expanding field of environmental health encompasses various scientific disciplines in order to investigate the physiological impact of environmental conditions on human health.

Since the late 1960s, information concerning the affect of environmental factors on health has proliferated. This substantial gain of knowledge comes from many scientific disciplines, including biology, chemistry, physics, mathematics, and engineering sciences. Increasing sophistication of laboratory techniques, diagnostic equipment, and in-the-field surveillance has greatly contributed to the prevention and control of human health problems by enabling environmental factors to be analyzed in minute quantities.

OCCUPATIONS AND AGENCIES

Occupations in environmental health include medicine, ecological research, pollution sciences and engineering, and regulatory enforcement through governmental organizations such as the ENVIRONMENTAL PROTECTION AGENCY (EPA), FOOD AND DRUG ADMINISTRATION (FDA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), PUBLIC HEALTH Service, and state and local environmental agencies.

Public health departments routinely inspect meat, fish, and poultry packaging industries, restaurants, markets, and hospitals, and enforce regulations designed to prevent the contamination of food, beverages, drugs, and cosmetics. The Environmental Protection Agency is empowered to protect the public health by controlling air and water pollution and by regulating the production, use, and disposal of toxic chemicals. The Food and Drug Administration is responsible for overseeing the wholesomeness of products consumed in the United States and for the banning and control of harmful chemicals in food, cosmetics, and drugs. The Occupational Safety and Health Administration supervises work environments to protect workers from exposure to unsafe industrial chemicals, machinery, and operating procedures. Most cities have sanitary engineering departments responsible for garbage collection and sewage treatment. Communities frequently chlorinate drinking water to kill pathogens, ever since John L. Leal demonstrated (1908) the efficacy of chlorinated waters in Jersey City, N.J. Research currently focuses on environmental pollution (see POLLUTION, ENVIRONMENTAL) and its consequent harm. Adverse health effects resulting from environmental contaminants, or

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pollution, are an important concern of most environmental health research. When industrialization was in its infancy, the impact of pollution was localized and minimal. With rapid worldwide industrialization, however, using PETROCHEMICALS as an energy base, toxic pollution has increased to global proportions. The stress placed on our planet by pollution has far-reaching effects and constitutes a grave crisis.

COMMUNICABLE DISEASES

History

Environmental health originated in the control of communicable diseases during the past century. The most spectacular achievement of the biological sciences in the last hundred years has been the identification of pathogenic organisms as the cause of disease. The germ theory of disease, pioneered by Louis PASTEUR and others, led to the general concept that disease could be prevented by vaccination and controlled by interrupting the transmission of pathogenic organisms to humans.

Three 19th-century scientists contributed greatly to understanding the causes and prevention of INFECTIOUS DISEASE: Peter Ludwig Panum, who researched (1847) measles; John Snow, who published (1849) findings on the mode of cholera communication; and William Budd, who wrote (1873) about the spread of typhoid fever from contaminated water supplies in Wales and England.

Certain animals, such as mosquitoes, flies, fleas, lice, rats, mice, and snails, were found to harbor pathogenic organisms and parasites that can cause human diseases. As a result of this major discovery, populations of these host animals, known as vectors, were controlled through eradication and better sanitation, reducing the prevalence of disease. The recognition that disease could also be transmitted by fecal contamination of water and food led to the development of sewage treatment, systematic garbage collection, the protection and treatment of drinking water supplies, and the establishment of public health enforcement agencies.

Results of Control

The prevention and control of communicable disease in

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industrial societies began to show dramatic results during the 1920s. Incidences of such major epidemic diseases as BUBONIC PLAGUE, DIPHTHERIA, MALARIA, SCARLET FEVER, SMALLPOX, and WHOOPING COUGH dropped radically. Conversely, human life expectancy in developed nations began to rise from less than 40 to more than 75 years. Through the intensive efforts of the World Health Organization (WHO) and the cooperation of all nations, endemic smallpox appears to have been eradicated; the last case of endemic smallpox occurred on Oct. 26, 1977, in Somalia. This achievement marks the first time in human history that a communicable disease has been eliminated. The smallpox virus is apparently extinct except for laboratory cultures. Ironically, smallpox outbreaks associated with laboratory accidents have occurred since 1977. As a result, the WHO insisted that all existing cultures be destroyed, except for those in four tightly guarded places, including the Center for Disease Control (CDC) in Atlanta, Ga. These remaining cultures are available for research purposes and also for producing vaccines should mutations of smallpox-type viruses arise.

Legionnaires' Disease

Developed nations have instituted public health and enforcement systems to reduce the occurrence of disease. In the United States, many diagnosed diseases must be reported to state officials and to the CDC, where information is compiled and disease incidence is surveyed. Teams of experts are thus available and easily mobilized to investigate disease, as was necessary during the mysterious pneumonialike outbreak at an American Legionnaires Convention (1976) in Philadelphia. After several months of intensive investigation, a particularly elusive and previously unknown bacterium was found to be the cause of the infection now known as LEGIONNAIRES' DISEASE. This bacterium as well as a group of similar bacteria now isolated are believed to be responsible for as many as 5 to 10 percent of deaths diagnosed as pneumonia.

Nosocomial Diseases

Hospitals cooperate in environmental health concerns by hiring and training specialists to curb the rising incidence of NOSOCOMIAL infections, which result from exposure to pathogens during a hospital stay. The cross-contamination of sick patients is prevalent, as is transmittal of an infection from

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the hospital staff to patients. Because DRUG therapy is widely employed, hospitals have been shown to be the breeding grounds of antibiotic-resistant organisms. At present, hospitals are placing great emphasis on the identification and control of these organisms and on tighter control of the spread of infection.

CHRONIC AND DEGENERATIVE DISEASE

Although the prevalence of diseases caused by pathogens and parasites has declined substantially, chronic illnesses and degenerative disorders have become the leading causes of death in developed nations.

In the United States, the only epidemic disease still prevalent is gonorrhea, having doubled in annual cases from 1969 to 1976. The four leading causes of death are, in order, HEART DISEASE (cardiovascular disease), CANCER, central nervous disorders (cerebrovascular disease), and accidents. The first three of these are chronic and degenerative disorders. The greatest percentage of accidental deaths involve the automobile, which is also responsible for up to 90 percent of the air pollution in most cities.

FACTORS CAUSING DISEASE

A major difficulty in the control and prevention of chronic and degenerative illnesses such as cancer, RESPIRATORY SYSTEM DISORDERS, and heart, liver, and kidney disorders is that the symptoms are caused by complex factors. Differing forms of cancer have myriad probable causes, each exerting influences over the course of time. Most chronic illnesses are not caused by any single etiologic agent, for example, a pathogenic organism. Smallpox could be eradicated because its virus was

isolated and a vaccine produced; a vaccine for heart disease, however, appears unlikely.

More important, with an infection by a biological agent, the onset of disease symptoms is usually a matter of hours, days, or weeks. On the other hand, the onset of cancer from exposure to carcinogens, which are chemical agents, may take years, even decades. Epidemiologic research is complicated by such factors as the length of exposure (whether in inhalation, ingestion, or skin contact), the stress of the individual, and the toxicity of the agents involved. Some agents become toxic when present

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in the human body in conjunction with other agents. Other agents that are already toxic become even more powerful in the presence of other chemical compounds. For example, deaths from cardiac and respiratory failures have resulted from the effects of combining sleeping pills and alcohol.

THE CHEMICAL ENVIRONMENT

Each year, hundreds of new chemical substances are created. Because many of these chemicals differ significantly from natural biochemicals, detailed studies have been designed to discover potential harmful effects. Often, when synthetic compounds are introduced into the environment, their movement through ecosystems is difficult to detect. Many compounds are not biodegradable and are of particular concern, especially if they can accumulate in biological organisms, including humans. Since the beginning of the century, the environment has been progressively polluted by chemicals. Two examples of biologically persistent chemicals that have been indiscriminately introduced into the environment in vast quantities are the insecticide DDT (dichlorodiphenyltrichloroethane) and a group of compounds known as polychlorinated biphenyls (PCB).

DDT

DDT is probably the best-known synthetic compound, and its environmental effect is of great magnitude. The actual DDT activity is not fully understood, even though it has been studied for over thirty years. DDT was originally hailed as

the great savior of crops from insect pests and has been extremely important in controlling the spread of malaria by mosquitoes. However, because DDT and its related compounds can dissolve into fatty animal tissue, DDT has bio-accumulated through food chains and has manifested pronounced effects in fish, reptilian, and avian metabolism and reproductive systems. Many animal species have suffered substantial reductions of populations from DDT contamination, including the bald eagle, the national bird of the United States.

PCB

Materials containing PCB were used primarily in electrical transformers because of their unique capacity to conduct electricity and because of their fire resistance.

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Unfortunately, PCB compounds have also been shown to be highly carcinogenic.

Massive amounts of PCB have been introduced into the environment. More than 1,500,000 kg (one-third of the nearly 1 billion lb) of PCB-containing material manufactured since the 1920s has been discharged into waterways or leaked from improper disposal sites. Little information is currently available concerning the bio-accumulation effects of PCB, which is, like DDT, soluble in fatty tissue.

DDT and PCB are present worldwide, having been found in ocean sediments and polar ice. The problem of tracing these compounds and thousands of others (including breakdown products which sometimes are even more harmful) is immense and will occupy the investigations of environmental health researchers for years to come.

EFFECTS OF AIR POLLUTION

The dangers of air pollution have been well documented. Air pollution kills, especially when prolonged weather inversions prevent adequate dispersion of petrochemical combustion products.

During Dec. 5-8, 1952, a killer smog was responsible for an

estimated 3,500-4,000 deaths in London. In 1948, a stagnant air mass sent over 10 percent of the population of Donora, Pa., to hospitals.

Most urban communities show increased mortality of the aged, very young, and those afflicted with respiratory illnesses during heavy smog episodes.

Lung Damage

The major forms of air pollution--carbon monoxide, particulates, sulfur oxides, nitrous oxides, and photochemical oxidants--have a wide range of effects on human respiratory tracts.

Disorders include ASTHMA, BRONCHITIS, EMPHYSEMA, and lung cancer. Air pollution results primarily from automobile exhaust, fossil fuel power plants, industrial processes, and forest fires; cigarette smoking has also been strongly linked

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with respiratory illnesses.

The extensive damage of respiratory, circulatory, and lymphatic systems by chronic tobacco inhalation makes cigarette SMOKING a major public health concern.

EFFECTS OF WATER POLLUTION

Mercury Poisoning

One of the most significant harms to human health as a result of water pollution occurred when the people of Minimata Bay in Japan were exposed to mercury-contaminated shellfish and fish caught near the shore. The mercury had been discharged into the water from a local factory. The pollution was not detected until an alarming number of children were born with physical abnormalities.

Public Water

A wide variety of toxic compounds is present in public drinking water supplies, although mostly in minute amounts.

Almost nothing is known about the long-term health effects of these contaminants. Water that is chlorinated in order to eliminate bacterial contaminants may actually increase the toxicity of chemical contaminants. The EPA is extending a list of known and suspected toxic substances and has set limits for the presence of many of these contaminants in drinking water.

EFFECTS OF FOOD AND DRUG CONTAMINATION

Delaney Amendment

FOOD ADDITIVES are chemicals widely used to enhance the flavor, color, texture, consistency, and wholesomeness of foods. Chemicals are also used in the preparation, mixing, curing, firming, anticaking, and preservation of foods.

The Delaney clause of the 1958 amendment to the Food, Drug and Cosmetic Act states that no additive may exist in any food if it produces cancer when fed to a human or laboratory animal in any concentration or if it can be shown to be a carcinogen by an appropriate test. This law has given rise to a substantial chemical testing industry. Because the burden of proof of safety rests with the manufacturer, much debate has ensued over

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the methodology used to analyze toxicity. Several areas of controversy include the accuracy of testing techniques, whether animal studies are useful in testing for human drugs, and the safety of dosage levels.

Contaminants

The contamination of plant and animal foods is another concern in environmental health. The effects of petrochemical FERTILIZERS, HERBICIDES, PESTICIDES, and STEROIDS and other growth-inducing hormonal residues are uncertain. In 1973, more than 10,000 Michigan farm residents were exposed to polybrominated biphenyls (PBBs), a group of fat-soluble, biologically persistent compounds, similar to PCBs, used as flame retardants.

A shipping accident substituted several hundred pounds of PBB for magnesium oxide, a nutrient in animal feed. Exposed cattle

suffered weight loss, decreased milk production, and death; cows gave birth to dead and malformed calves. Farmers, their families, and other people who drank milk and ate meat from these contaminated herds also had symptoms resulting from PBB toxicity. The long-term human health effects of this accident are unknown, and results of continuing research may not be conclusive for years.

Another disaster occurred in the early 1960s, when malformed children were born to mothers who were taking the prescribed drug THALIDOMIDE. Since that time, side effects of medicines intended to improve health have been rigorously examined.

RADIATION

The nuclear age has brought a great form of energy to humans; however, nuclear research, including the creation of plutonium and other radioactive isotopes as well as their improper use and disposal, is of grave public concern. Emissions from radioactive decay are known to cause cancer and genetic damage. Plutonium is the most toxic chemical created, and inhalation of 1/10,000 of a gram can induce lung cancer. The use of plutonium to generate electricity from nuclear power plants is of particular concern, especially in light of the 1979 crisis at the Three-Mile Island nuclear power plant near Harrisburg, Pa., during which radioactive material was released into water and the air. Disposal of radioactive wastes and their safe

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transport is another concern (see NUCLEAR ENERGY). Atmospheric atomic testing has spread worldwide a radioactive substance, strontium-90, that accumulates in human bones. Strontium strongly mimics the biochemical pathways of calcium, and decay emissions of strontium that have accumulated in human bones may possibly induce leukemia. Close surveillance of survivors of the two atomic explosions in Japan and the inadvertent victims of fallout from atmospheric testing in the Marshall Islands has shown high incidences of LEUKEMIA and skin disorders. The significance of the genetic damage is still uncertain because such studies require long and precise epidemiological research.

DANGERS IN THE WORKING ENVIRONMENT

Many of the early studies of chemically induced diseases were

conducted on workers exposed to certain manufacturing processes. Several specific diseases have been identified in relation to the inhalation of asbestos, silicon, talc, and coal dust. Most occupational diseases fall into two time-concentration patterns--those of quick recoveries from a relatively high dose over a short period, and those of cumulative effects (with a slow onset) of a relatively low dose over a long period of time. Ammonia and carbon monoxide are typical examples of the former, whereas inhalation of benzene and carbon tetrachloride has been shown to be carcinogenic over a long-term exposure.

The work environment has also been studied for the effects of noise on human health. Most notably, loud chronic noise may lead to temporary or permanent hearing loss. Other effects of noise pollution are the loss of intelligible speech, the disruption of sleep patterns, and increased stress of the individual.

Michael C. Cote

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PUBLIC HEALTH

Public health is the effort organized by society to protect the health of its members. On all levels--local, national, and international--the major concerns of public health agencies are the assurance of disease-free food and water, adequate sanitation systems, the prevention or control of epidemic and endemic diseases, the delivery of health care to needy population groups, and the formulation of laws regarding health.

Although the knowledge base of the field cuts across a number

of disciplines (biomedical sciences, social sciences, engineering, law), public health research relies heavily on specialized methods of quantitative analysis. The basic techniques for measuring and evaluating community-wide health problems are those of EPIDEMIOLOGY and biostatistics.

History

Concern with the regulation of diet, with the water supply sewage disposal, and the isolation of the sick were already present in early civilizations. During the Middle Ages, efforts to fight infectious disease shaped public health efforts. The BUBONIC PLAGUE pandemic of 1347-51 and the epidemics that followed resulted in such practices as quarantine and sanitary cordons.

During the 16th to 18th centuries, new sociopolitical and economic theories evolved to justify and maintain the power of nation-states. It was believed, for example, that large populations were necessary to supply labor and promote state wealth. In 17th-century England, physician William Petty and John Graunt--considered the first demographer--developed a numerical method for studying the social phenomena that might provide the state with information on the number and "value" of people. The method required accurate statistical data on population, trade, manufacture, and education, as well as disease. This "political arithmetic" marked the beginning of quantitative studies of health of populations.

VACCINATION, discovered (1798) by the English country physician Edward JENNER, was the first practical means to control and eventually to totally eradicate smallpox, as later it was to end the spread of other contagious diseases.

During the early 19th century, public health focus shifted to

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the health problems associated with industrialization and urbanization: poor working conditions in factories, crowding in tenements, lack of a clean water supply and of effective sewage disposal, poor food, and inadequate medical services. In England in the 1830s and 40s, recognition of these conditions gave rise to the sanitary movement, led by such

notable reformers as Edwin Chadwick, whose book, Report on the Sanitary Condition of the Labouring Population of Great Britain (1842), demonstrated the link between environmental conditions and public health. The movement was responsible for the passage of the Public Health Act of 1848, the first attempt to create an official body to supervise health-related public conditions. Following Britain's example, many United States cities and states founded public health departments in the last half of the 19th century.

The identification of microbes as causative agents of disease allowed public health workers during the late 19th and early 20th centuries to develop specific methods of prevention. Antitoxins and vaccines were discovered and used to control communicable diseases. Mass immunization programs were initiated. Public health laboratories were founded to test the purity of water, food, and milk, as well as to diagnose contagious diseases.

The new impetus given to public health by the application of bacteriology, coupled with the growing health needs of an industrial and urban United States, produced a rapid growth in state and municipal health departments, voluntary health agencies, public health NURSING, maternal and child welfare programs, and school health programs.

The Modern Era

International conferences aimed at drafting sanitary conventions and quarantine regulations led first to the establishment (1909) of an international health organization based in Paris, and ultimately to the founding (1942) of the WORLD HEALTH ORGANIZATION (WHO), an agency of the United Nations. Its broad scope of activities includes worldwide campaigns to control such widespread diseases as malaria, tuberculosis, and the venereal diseases; to help establish pure-water supplies, sanitation systems, and health education; to provide health planning assistance; and to help train health workers.

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PUBLIC HEALTH

The health services of individual countries are organized in

many different ways. In the Soviet Union, public health is the responsibility of the national government, and its administration is strongly centralized. The United Kingdom allows substantial autonomy to local governments. The United States, with its pluralistic approach to health services, gives local and state governments and the private sector large areas of responsibility. The Public Health Service, the principal health agency of the federal government, however, is among the largest and most varied of federal organizations.

PHS had its beginnings as the Marine Hospital Service (1798-1902), which provided medical relief to merchant seamen. Its functions gradually expanded to include the supervision of quarantine laws, the medical inspection of immigrants, and general investigations in the field of public health. It became the Public Health Service in 1912, and now operates as a division of the Department of Health and Human Services.

Of the many agencies making up the PHS, six are responsible for carrying out its major functions: the NATIONAL INSTITUTES OF HEALTH (NIH), the FOOD AND DRUG ADMINISTRATION (FDA), the CENTERS FOR DISEASE CONTROL (CDC), the Alcohol, Drug Abuse, and Mental Health Administration, the Health Resources Administration, and the Health Services Administration. Important functions of the PHS include medical research and dissemination of research results; the supply of health professionals and facilities to the public, often by working with communities; the provision of medical services to such special groups as American Indians; the investigation of the causes of such epidemics as LEGIONNAIRE'S DISEASE; the testing of foods and drugs to ensure their safety; the development of treatment programs for alcohol and drug abuse and mental health problems; and the collection and analysis of statistical health data.

The National Institutes of Health are responsible for coordinating research into AIDS (Acquired Immune Deficiency Syndrome). Other PHS agencies test the efficacy of anti-AIDS drugs; develop AIDS blood tests; develop safety standards for health workers involved with AIDS patients; and disseminate information and educational programs on AIDS.

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UNION OF SOVIET SOCIALIST REPUBLICS

The history of the Union of Soviet Socialist Republics began with the seizure of power in Russia by the Bolsheviks (Communists) in 1917 and ended with the dissolution of the Soviet state in 1991. In the intervening time, the lands of the old Russian Empire were governed by the Communist Party of the Soviet Union (CPSU; see COMMUNISM), an organization committed to a radical vision of Russia's future greatness and of the way to achieve it. This vision led to heroic self-sacrifice and blood-chilling crimes. It inspired millions, not only in the Soviet Union but around the world, yet by the early 1990s its inner bankruptcy was exposed.

BACKGROUND

In order to understand the origin of the Communist party's vision, it is necessary to look at the historical character of the USSR's predecessor, tsarist Russia, the challenge it faced from the industrialized West, and debates among the Marxist groups to which the Bolsheviks belonged.

The Tsarist State

Like the United States, the Russian Empire expanded from a small original base until it occupied a vast continent. Unlike the United States, it did not expand into thinly populated and extremely fertile land with little serious interference from other nations; many parts of the Russian Empire were thickly settled, and Russian expansion was observed with suspicion by powerful rivals.

These factors caused the Russian government to take the form of a militarized autocracy ruling over a restive peasantry. At the top was the tsar, who in theory and to a great extent in practice was the possessor of undivided state sovereignty. In the middle was a nobility that depended much more on the central government than the aristocracy in countries such as France and England. At the bottom (besides a small urban population) was a vast multitude of peasant villages. Although the Russian Empire was highly centralized, since all important decisions were made in the capital, it was also under-governed, and the peasants were left to themselves for much of their lives.

During the 18th and 19th centuries, the empire moved beyond its

original population base of Orthodox Russians and incorporated

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both non-Orthodox Christian peoples such as the Lithuanians, and non-Christian peoples such as the Muslim Kazakhs and Azeris. The Russian Empire did not conduct wars of extermination, practice racially-defined slavery, or push nomadic peoples onto reservations: it left subject peoples more or less intact with varying degrees of administrative autonomy. Unfortunately, the empire was never able to effectively absorb these large non-Russian populations in a stable way; assimilation was not a success, and neither was granting special privileges. The tsars bequeathed this problem to the Soviet successor state.

The Western Challenge

Despite some military setbacks, the tsarist empire was for a long time able to hold its own in its competition with other European great powers. In the late 19th and early 20th centuries, however, pressure from the West began to intensify. This pressure was threefold. In the economic sphere, Western technological and organizational breakthroughs created a powerful industrial society that outstripped the backward Russian economy. In the political and cultural spheres, invidious comparisons with the West created doubt and disloyalty among influential sections of Russia's educated public. The bottom line was military competition: would the tsarist system be able to protect Russian independence against the new sources of material and social power at the disposal of the West?

The Russian Marxists

The challenge from expansionist Western powers made a radical transformation of Russian society inevitable. The tsarist government embarked on education and industrialization programs somewhat reluctantly, realizing the great potential for social instability in these changes. A great debate arose within educated Russian society over the fundamental choices facing the country. The Russian revolutionary tradition--the radical wing of educated society--rejected tsarism and western models with equal fervor. In 1881, the NARODNIKI (Populists) tried to

incite a peasant rebellion by assassinating Emperor Alexander II. Partly as a result of Populist failures, the next generation of Russian revolutionaries adopted MARXISM and placed their revolutionary wager on the nascent working class.

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UNION OF SOVIET SOCIALIST REPUBLICS

Marxism predicted a socialist revolution in advanced capitalist countries. How could it be applied to a peasant country that had not even achieved basic political freedoms? In response to this challenge, the Russian Marxists argued that the Russian revolution should be seen in a world context: Russia may have been backward, but the world economy as a whole was ready for SOCIALISM. Many Russian Marxists also felt that in some way the Russian working class might be able to lead the peasantry toward socialism. A central dispute among Marxists was how to organize an effective revolutionary party under the specific conditions of Russian autocracy. The debate on this question caused a deep split into two groups called the BOLSHEVIKS AND MENSHEVIKS; the leader of the Bolsheviks was V. I. LENIN.

THE SOVIET REVOLUTION

In the decade between 1914 and 1924, Russia experienced a national convulsion beyond anything experienced by Western European nations in modern times. In 1914, Russia was drawn into WORLD WAR I and found itself locked in a desperate struggle with Germany and Austria-Hungary. The military challenge proved too much for the monarchy: Russia suffered heavy losses at the front and intolerable social strains at home. In March 1917 the 300-year-old ROMANOV dynasty was overthrown. The Provisional Government that took its place faced an impossible agenda: to carry on the war, to settle the basic principles of a new state, and to carry out important social reforms. In reality, the government could not even guarantee minimum social and economic order. By the time the Bolsheviks seized power in November, the country was in the grip of spiralling disintegration. The Bolsheviks did not take over a government so much as offer to create an effective one. (See RUSSIAN REVOLUTIONS OF 1917.)

The Civil War

Given the conflicts in Russian society and the deep differences in visions of the future, there was probably little chance of avoiding civil war once the unifying figure of the tsar was removed. Armed conflict began in 1918. Between 1918 and 1922 there were so many challenges to Bolshevik rule that it is perhaps better to speak of "civil wars" in the plural. The challengers can be divided into several groups. The Whites, who relied principally on the elite classes of tsarist Russia, were led by former officers such as Aleksandr Kolchak in

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Siberia and Anton Denikin in south Russia. National minorities also took advantage of the temporary breakdown of central authority to declare independence. Some--such as Poland, Finland, and the Baltic States--were successful; others were reincorporated into the Soviet Union. There were also peasant rebels, collectively called the Greens. Finally, foreign powers such as Britain, France, the United States, and Japan intervened in order to topple Bolshevism. Because of conflicting purposes and lack of coordination among their enemies, the Bolsheviks survived all these challenges.

The devastation caused by the world war and the civil wars led to an unprecedented collapse of the normal workings of society. The ruthless mobilization policies pursued by all the contending forces, most successfully by the Bolsheviks, compounded the economic hardships. The civil wars began to wind down in 1920. After they ended, Russian society was further weakened by the vast famine of 1921-22 in the Volga region.

The circumstances under which the Bolsheviks came to power had many important long-term consequences. The revolutions of 1917 took place as a result of military defeat, and an essential part of the Bolshevik mandate was to prevent a similar threat to national survival from recurring. The Bolshevik entry onto the world stage was made during World War I, a time when the European nations were showing by word and deed that no price was too high to pay in order to prevail in the competition for power and prestige. Total mobilization of society, ceaseless propaganda, and centralized economic regulation were the techniques the Bolsheviks used to attain victory.

Given the many challenges to its existence, it is not surprising that the Communist party's most crucial accomplishment was the creation--largely by Leon TROTSKY--of a new Red Army out of the ruins of the old Imperial army. Yet this accomplishment could hardly have been predicted: the Bolsheviks were a radical working-class party that had strongly opposed militarism and the war against Germany. They not only had to turn themselves into military commanders, but also had to work with two groups who had little reason to trust them: former tsarist military officers and the peasant recruits who made up the bulk of the army.

The New Economic Policy

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The change in attitude needed for the creation of the Red Army was paralleled in the economic sphere by the NEW ECONOMIC POLICY (NEP) announced in 1921. The essence of NEP was a shift in priorities from a policy of severe pressure on the population for mobilization purposes to a policy of collaboration and active encouragement of increased production. NEP is often portrayed as a sharp turnabout from the radicalism of "war communism" (the name given after the fact to Bolshevik mobilizing policies); in many ways, however, it was the completion of a shift in outlook that had been going on since 1917. Before taking power, the Bolsheviks were a sectarian party who preached class struggle and blamed all problems on elite sabotage. After taking power, they were forced to take responsibility for national problems and to work with groups such as the peasants and the so-called "bourgeois specialists" (professional people). This collaborative perspective coexisted uneasily with the militant class outlook inherited from the past.

The Bolsheviks' struggle to maintain themselves in the midst of breakdown and social collapse led to a bedrock insistence on party unity and discipline. The experience of power confirmed earlier party feelings about the need for a highly disciplined party organization.

INTERNAL CHALLENGES TO COMMUNISM

By 1924 the country had begun to recover from the devastation of the previous decade. Up to this point the tasks faced by the party were so stark that there was relatively little dissension about how to deal with them, but the Bolsheviks now faced more difficult choices.

The Peasants

As the period of economic recovery approached its end, the party had to choose an industrialization strategy. Economic transformation meant imposing new burdens on a peasantry whose support was felt to be vital. The party's feeling of setting off on a new road was heightened by the death of Lenin in early 1924. (He had been completely incapacitated by a stroke for almost a year).

Underlying these challenges was the hard fact that the strategy

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the Bolsheviks had developed was not working. They saw themselves as guarantors of the "dictatorship of the proletariat" (industrial workers) mandated by Marxist ideology, in a country where the overwhelming majority of the people were peasants. Since there was unlikely to be a socialist revolution in the advanced western countries anytime soon, the Bolsheviks had to use internal resources to win over the peasants. In theory, this would be done in the short run by the superior performance of socialized industry, and in the long run by the voluntary transformation of the peasants from primitive individualists to technologically advanced collectivists.

The central difficulty was that the performance of the socialized sector did not justify Bolshevik expectations. There were a number of reasons for this, ranging from the absence of foreign loans to disappointingly low productivity in industry. Without dynamic industrial growth, the Bolsheviks could not count on peasant loyalty. Furthermore, the slow tempo of growth seemed to leave Russia open to attack from a hostile capitalist world.

The Nationalities

The Bolshevik strategy for dealing with the nationalities faced similar dilemmas. Lenin strongly believed in the economic rationality of belonging to a large political unit such as the tsarist empire. It was, of course, understandable that the smaller nationalities wanted independence: under tsarism, they had indeed been oppressed solely because of their nationality. But Lenin was confident that if the irritant of national oppression was removed, people would no longer need to see themselves primarily as Georgians or Uzbeks--instead, they would realize their "true" identity as members of the working class.

This thinking lay behind the reorganization of the tsarist empire into a Union of Soviet Socialist Republics. In 1922, a treaty was signed by the Russian Federation, Ukraine, the Transcaucasian Republic, and Belorussia. Within the largest republic, the Russian Federation, a further effort was made to ensure that each national grouping had administrative expression at some level. Even though their ultimate aim was to move beyond nationalism, the Bolsheviks paradoxically made it the organizing principle of the new state. This strategy

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entailed a severe risk. If nationalist consciousness did not fade away as expected, it would be strongly entrenched in the new administrative framework and represent a standing challenge to the unity and centralization required by a socialist state and society.

Party Leadership

After Lenin's death, the party faced the further dilemma of preserving unity without the original founder of Bolshevism. As the disquieting difficulties of socialist construction became apparent, various groups began to express opposition to the policies of the party majority. Conflicts over policy were compounded by divisions among the top leaders, who were unable to work together in a collective leadership. But all opposition within the party was ultimately crippled by an insistence on party unity that was shared by all party members, including the oppositionists themselves. In 1927, such outstanding Bolshevik leaders as Leon Trotsky, Grigory ZINOVIEV, and Lev KAMENEV were expelled from the party. Opponents of central policy after 1927 (most notably Nikolai

BUKHARIN and Aleksei Rykov) made almost no effort to take their case beyond top party bodies; they were easily defeated and removed from responsible posts.

THE CONSOLIDATION OF THE STALIN REGIME

The ultimate winner in these intraparty disputes was Joseph STALIN. While other leaders were busy giving speeches, Stalin used his position as general secretary of the party to work on the nuts and bolts of party rule: appointments and coordination of policy at all levels of the huge Soviet state. What his opponents saw as machine politics was viewed by supporters as practical concern for the unity of the party. Stalin was not an eloquent speaker, but he did embody the party's will to "catch up and overtake" the advanced western countries by building "socialism in one country"--Russia.

By 1929, Stalin was in undisputed control, and in a position to give his own response to the dilemmas facing the party. He decided that certain key Bolshevik aims had to be maintained even if it meant the sacrifice of all others. These aims were rapid industrialization, unity in party and society, and vigilance against class enemies.

Industrialization

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Stalin pushed for industrialization at a rate faster than anyone in the party had earlier dreamed was possible. He maintained that the inhuman tempo of growth was necessary if Russia did not want to be beaten by its many enemies. Other socialist values such as equality or democracy would have to wait until the period of "primitive socialist accumulation" was over, and Russia had a thriving industrial economy. To maintain growth at the desired tempo, Stalin insisted on what he called a temporary "tribute" from the peasants in the form of food and agricultural raw materials. This tribute was incompatible with the maintenance of friendly relations with the peasantry. While searching for ways around this problem, Stalin came to a momentous decision: to impose a COLLECTIVE FARM structure on the peasantry before industrialization provided the necessary technical base for such a change in the

form of electrification and tractors.

Forced collectivization led to an upheaval in the age-old peasant way of life. The violent and hasty way collectivization was carried out magnified the costs of the process. In late 1929 Stalin decreed "the liquidation of the kulak as a class." Kulak was the Bolshevik term for the better-off peasant who had become the scapegoat for all difficulties. Millions of peasants were uprooted from their farms and deported to remote regions. The replacement of individual peasant farms with collective ones was done so rapidly that massive disorganization resulted. Despite temporary retreats, the process of collectivization was pushed on unrelentingly. The government's refusal to relax the pressure or even to admit the existence of a problem turned the harvest failure of 1933 into a famine in which millions perished.

Elimination of Dissent

Stalin was aware that these radical and costly policies were viewed with grave misgivings by many within the party. His fanatical insistence on party unity, coupled with his suspicious and resentful personality, led him to deal with real and suspected opposition by means of the GREAT PURGE, a campaign of terror that reached its climax in 1937-38. The decimation of the country's political and economic elite was only the tip of the iceberg. In the course of the purge millions of Soviet citizens were executed or sent to forced

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labor camps.

Insistence on unity and centralized control was not confined to the party. All manifestations of "nationalism"--which to Stalin meant any attempt to attain genuine administrative autonomy--were stamped out. Cultural life fell under the control of central organizations such as the Union of Writers; writers and artists were told that SOCIALIST REALISM was the only permissible style.

Stalin and his supporters justified the violence inherent in policies such as de-kulakization and the great purge by the

need for vigilance against malevolent and seemingly ubiquitous class enemies. The emphasis on vigilance meant a great increase in power for the secret police organization set up in the early days of the revolution to deal with sabotage and counterrevolution. Under various names this organization (see KGB) lasted through the entire history of the Soviet Union and indeed may have outlasted it. Owing to the extraordinary terror of the 1930s, the secret police became the administrators of a vast empire of forced labor camps in which millions worked under inhuman conditions. The Russian acronym for the Main Administration of Camps (GULAG) became known throughout the world because of the description by Aleksandr SOLZHENITSYN of the camp system in *The Gulag Archipelago* (1973).

THE FORMATION OF SOVIET FOREIGN POLICY

The counterpart of unity at home was the effort to sow disunity among the enemies of communism abroad. The Bolsheviks were extremely conscious of the weakness and vulnerability of the Soviet Union--a poor, devastated country surrounded by hostile capitalist states. If the enemies of the revolution had so far failed to crush it, it was only because they were preoccupied with their own conflicts. It was the job of Soviet foreign policy to use these conflicts to give the revolution a breathing space. The Soviet Union did not have the strength even to think of conquering; its motto had to be "divide and survive."

Withdrawal from the War

The first foreign policy act of the new Soviet government after the revolution in 1917 was an appeal to the toilers of the

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world to force their governments to conclude an immediate, equitable peace. When this met with no response, Lenin and his colleagues had to decide whether to continue the war with Germany. The disintegration of the army and the collapse of the economy left them even less able to conduct a successful war than previous Russian governments had been. On the other hand, the Germans demanded extremely harsh conditions and substantial territorial losses as the price for peace.

In early 1918, in the small border town of BREST-LITOVSK, the Bolsheviks signed a treaty accepting these conditions. Even after signing, Lenin had to use all his prestige to get the party to ratify the treaty. His sober assessment of Russian weakness was later regarded as his finest hour in foreign relations. The fledgling Soviet government obtained sufficient breathing space to survive until Germany itself was defeated by the other capitalist powers in November 1918. But the conclusion of a separate peace with Germany also provided the Allies, who regarded this as a betrayal, with an excuse to intervene against the Bolsheviks in the civil wars that followed. Their intervention was ineffective, partly because of rivalries among the Allies themselves.

International Recognition

When the civil wars drew to a close, these rivalries speeded up the process of opening trade relations and receiving diplomatic recognition. Germany, isolated after its defeat, was the first of the major powers to establish ties with the USSR (1922). Others followed, although the United States delayed recognition until 1934, the same year in which the USSR was admitted to the LEAGUE OF NATIONS.

Relations With Germany

The central foreign policy dilemma of the Soviet Union during the interwar years was how to respond to the rising power of Germany. This dilemma was an inheritance from the tsarist period, when the government had two options: be friendly to Germany in the hope that it would expand elsewhere, or join with Germany's enemies in the hope of preventing German expansion of any kind. In the end, the tsarist government had chosen the second option, which led to Russia's failure in World War I and the eventual collapse of tsarism itself.

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After the civil wars came to an end, the Soviet Union pursued the course of rapprochement with Germany. Since both Germany and Soviet Russia were regarded almost as pariahs in the international system, there was ground for common interest.

The Treaty of Rapallo (Apr. 16, 1922) formalized relations between the two countries and led to secret military collaboration. But the rise to power of Adolf HITLER in the early 1930s put an end to any further cooperation. Hitler's anticommunism and his open desire for expansion toward the east forced the Soviet Union to return to the second option of trying to isolate Germany.

Under the policy known as "collective security," the USSR tried to work together with France and Britain in order to convince Germany that expansion would not pay. Whatever chance existed of effective cooperation between the Soviet Union and the capitalist democracies ended in 1938 and 1939 with the MUNICH CONFERENCE and Hitler's takeover of Czechoslovakia. With Hitler's encouragement, Stalin rapidly switched course again and in August 1939 he signed a nonaggression treaty (the NAZI-SOVIET PACT) with Germany. Relieved of fear of a two-front war, Hitler promptly attacked western Poland (while the Soviets invaded eastern Poland), and World War II began. But if Stalin hoped for a long drawn-out war between Germany and the Western powers, he was soon disappointed. Hitler quickly dominated the European continent and turned his sights east. Neither of the two options for dealing with Germany--separate deal or collective security--seemed to work.

The Communist International

The ultimate removal of the threat from outside could happen only by means of a world socialist revolution, but after the early 1920s the Soviets did not expect this to occur in the foreseeable future. In the meantime, however, foreign Communist parties helped turn social conflict within capitalist countries to Soviet benefit. The Communist parties were united in the Communist International, or COMINTERN, founded by Lenin in 1919.

Although it would be unfair to reduce the significance of the Comintern simply to a tool of Soviet foreign policy, it remains true that the Bolshevik party easily dominated the Comintern because of its immense prestige and its material resources. The defense of the Soviet Union was enjoined upon all member

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parties as their primary duty. The existence of the Comintern gave the USSR a chance to practice some innovative dual-track diplomacy: one track at the level of relations between states, and the other at the level of relation between parties. It is unclear, however, whether the Soviets gained more from dual-track diplomacy than they lost from the irritation of capitalist democracies at Soviet propaganda and calls for revolution. The Comintern was disbanded in 1943 in deference to the wishes of Stalin's World War II allies.

In the period between 1939 and 1941 the Soviet Union incorporated eastern Poland, the Baltic countries (Latvia, Estonia, Lithuania), KARELIA, and BESSARABIA. Most of this new territory had earlier been part of the tsarist empire. The Soviets had long felt that the small nations on their western borders could easily be used as anti-Soviet tools by the capitalist powers. The POLISH-SOVIET WAR of 1920 had reinforced this feeling. The Nazi-Soviet Pact gave Stalin the opportunity to remove this source of danger, and the impending conflict with Germany provided a motive.

WORLD WAR II

In 1931, Stalin justified the high tempo of economic growth by saying "We are fifty or a hundred years behind the advanced countries. We must make good this distance in ten years. Either we do it, or they crush us." Exactly ten years later--22 months into WORLD WAR II--the Soviet Union was invaded by Nazi Germany. The crucial test of the Stalinist system had begun.

It did not begin auspiciously. When Hitler ordered his troops to cross the border on June 22, 1941, he achieved almost complete surprise. Stalin's intelligence failure was even more embarrassing than the case of Pearl Harbor later in the year, since land invasions should be harder to camouflage than air attacks. The German armies were able to cause enormous damage to the Soviet armed forces and to push deep into the country. Stalin's paranoia had led to decimation of the top ranks of the Red Army in 1937-38, and it took some time before effective leadership was restored to the Soviet armed forces.

On the domestic front, the war emergency put survival ahead of efficiency and brought out the advantages of the Soviet system: it was able to mobilize resources, impose strict priorities, and neutralize discontent. Massive relocation of factories and

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workers gave witness to a impressive ability to manage in the midst of chaos.

Now that both Great Britain and the USSR were at war with Germany, there was little barrier to a real alliance. The United States joined them when it was forced into the war later in 1941. Through programs such as LEND LEASE, the Western allies were able to give considerable material aid to the Soviets. The fight on the eastern front, where Hitler and Stalin met head-on, was many times more brutal and barbaric than in western Europe. The hostilities of the later cold war period allowed Americans to forget the huge sacrifices made by the Soviet Union in the fight against Hitler. During the war, the American mass media had a different attitude. In March 1943, Life magazine had a special issue on the USSR with a photograph of Stalin on the cover. One article described "Red leaders" as "tough, loyal, capable administrators." The Life editors commented, "It is safe to say that no nation in history has ever done so much so fast. If the Soviet leaders tell us that the control of information was necessary to get this job done, we can afford to take their word for it for the time being."

When the Germans failed to take Moscow in late 1941, they lost their chance for a quick end to the war. The turning point was the months-long battle at STALINGRAD, a city on the Volga named for Stalin because he had won a victory there during the civil wars. Between the middle of 1942 and early 1943, Hitler continued to throw away some of his best troops in an attempt to take the city. The surrender of the German army at Stalingrad in February 1943 was the beginning of the end of the Third Reich.

After that, although many bloody battles remained to be fought, the Red Army moved inexorably toward Berlin. In May 1945 the Soviet flag flew over the ruins of the German Reichstag building in the German capital, while American and Soviet armies met at the Elbe River. At the request of the United States and Great Britain, the Soviets also joined the war against Japan after the defeat of Germany. They had just enough time to fight some hard battles with the Japanese army before the dropping of the atom bombs on Hiroshima and Nagasaki led to Japan's surrender.

THE LAST YEARS OF STALIN'S RULE

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According to Stalin's official biography, the Great Patriotic War (the Soviet term for World War II) was "a stern test of all the material and moral forces of the Soviet state, a test of its stability and vitality. The Soviet socialist state emerged with credit from the test of war, stronger and more stable than ever." Stalin felt that his policies of rapid industrialization, collectivization, and vigilance had been vindicated: the Germany that had defeated tsarist Russia had been destroyed by Soviet Russia. For as long as the Soviet Union lasted, its basic legitimacy in the eyes of its own citizens derived in large part from the victory over Germany.

For a brief moment in 1945, it seemed to many people that the era of suspicion and repression would soon end, and that the system was secure enough to open up at home and abroad. These hopes were soon dashed: the party leadership felt the need to clamp down hard for the sake of economic reconstruction and national security. The devastation caused by the war and the unrelenting pressure from the state made the second half of the 1940s one of the most difficult periods for ordinary people.

Postwar Domestic Repression

Soviet intellectual and cultural life reached its lowest point at this time. One of Stalin's lieutenants, Andrei Zhdanov, gave his name to an era by denouncing two of the country's finest literary artists, the short-story writer Mikhail Zoshchenko and the poet Anna AKHMATOVA, whose work was judged deficient according to official party norms. The scandal in science was perhaps even worse. A charlatan named Trofim LYSENKO managed to convince top leaders that he could perform agricultural miracles--if only the laws of genetics were denied. Genetics was termed a bourgeois pseudo-science, and an entire branch of biology was destroyed in the Soviet Union. A few geneticists managed to keep working while camouflaged by their fellow scientists as physicists--an example of the methods needed to keep intellectual culture alive during the Stalin years.

According to Stalin, the war showed that national diversity in the Soviet Union was no longer the source of weakness that it had been for tsarism. Yet his own suspicious vindictiveness

was revealed nowhere more clearly than in relations with the national minorities. Toward the end of the war, Stalin decided that some Soviet nationalities had collaborated with the

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Germans, and so he simply deported whole nations such as the Crimean Tatars (see TATAR) out of their homelands to other parts of the USSR. Chauvinistic propaganda extolling the Russian people became ubiquitous; scarcely-veiled anti-Semitism became more and more noticeable in press campaigns. Winston Churchill's phrase the IRON CURTAIN was an appropriate one to describe Stalin's policy of cutting the USSR and its satellites off from the rest of the world.

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the Soviet Union was no longer the source of weakness that it had been for tsarism. Yet his own suspicious vindictiveness was revealed nowhere more clearly than in relations with the national minorities. Toward the end of the war, Stalin decided that some Soviet nationalities had collaborated with the Germans, and so he simply deported whole nations such as the Crimean Tatars (see TATAR) out of their homelands to other parts of the USSR. Chauvinistic propaganda extolling the Russian people became ubiquitous; scarcely-veiled anti-Semitism became more and more noticeable in press campaigns. Winston Churchill's phrase the IRON CURTAIN was an appropriate one to describe Stalin's policy of cutting the USSR and its satellites off from the rest of the world.

Soviet Policy in Eastern Europe

After the sufferings of the war, the Soviets felt justified in insisting on friendly governments in Eastern Europe. In practice, this meant installing Soviet-style regimes in all the Eastern European countries under Red Army control (with the exception of Austria). By 1948, diversity in Eastern Europe had been replaced by uniformity and complete Soviet control. The only exception was Yugoslavia, which was also the only country where a Communist party had come to power without the direct help of the Red Army. Tito, the leader of the Yugoslav Communists, successfully defied Stalin and asserted his independence.

The capitalist encirclement of earlier years had now been replaced by a socialist encirclement protecting the Soviet Union's western borders. Many Soviet citizens regarded this as Stalin's greatest foreign policy achievement. Nevertheless, a high price had to be paid: the Soviet leadership never solved the dilemma of establishing governments that were both loyal to

the USSR and acceptable to the local populations.

The issue of the Katyn Forest massacre is an example of the insuperable difficulties faced by the Soviets in dealing with their Eastern European satellites. Some time after the invasion of eastern Poland in 1939, Soviet police had executed about 10,000 captured Polish officers in the Katyn Forest near Smolensk. The German Nazis discovered the bodies in a mass grave, but the Soviet Union never admitted the crime. After the war, Polish citizens were determined to discuss the issue, and the Soviet leadership was just as determined to prevent

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discussion. This made it impossible for any Polish government to please both the Soviet Union and their own people. The USSR only admitted responsibility for Stalin's crime in the late 1980s when Communism in Eastern Europe was already doomed.

Soviet domination of Eastern Europe was also a major factor in the COLD WAR that developed between the USSR and the West during the late 1940s. The memory of the World War II alliance quickly faded away, to be replaced by Western fears of Soviet expansionism and its implied threat to Western Europe. Chronic restlessness in the Eastern European satellites regularly provoked repressive Soviet interventions that confirmed Western mistrust.

Stalin's Death

The image of advancing world communism seemed to be vindicated in the late 1940s and early 1950s by the explosion of Soviet atomic and hydrogen bombs, the establishment of a Communist government in China, and the invasion of South Korea by Communist North Korea. Yet there is evidence that Stalin retained to the end a basic feeling of vulnerability in relation to the advanced capitalist powers.

In the last years of his life the negative aspects of Stalin's character became even more pronounced. The "cult of personality" glorifying the Soviet leader, which had begun in earnest in the late 1930s, reached new heights in the postwar years. Stalin was continually praised as the father of peoples, the wise teacher of mankind, and the greatest genius

of all times and places. In a final outburst of paranoia, he became convinced that his own doctors (who were mainly Jewish) were plotting to poison him (an episode known as the Doctors' Plot). Luckily for these doctors and probably for many of the political leaders close to him, Stalin died suddenly in March 1953.

THE SECOND INTERNAL CRISIS OF THE SOVIET SYSTEM

Stalin's death created a new set of opportunities and risks for the Soviet leaders. Their immediate task was de-Stalinization: ridding the system of the excesses associated directly with the personal tyranny of Stalin. But de-Stalinization was only the negative side of the wider task of creating a self-sustaining system that could hold its own in global competition. In

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response to the first internal crisis of communism in the mid-1920s, Stalin had staked everything on creating an industrial base for Soviet society. The second internal crisis posed the challenge, not only of repudiating Stalin's crimes, but of cashing in on his achievements.

In the economic sphere, the system created during the Stalin years emphasized mobilization and central control rather than efficiency and consumer sovereignty. The logic of the Soviet system was extensive (growth results from bringing in new resources) rather than intensive (growth results from more productive use of existing resources). The extensive system works best when national priorities are clear and unambiguous and when vast reserves of raw materials allow great inefficiencies to be tolerated. Such was the case during the Stalin years when the country was either preparing for war, fighting a war, or repairing the damage done by war. But the extensive system could not meet the challenges of a postwar world in which raw materials become scarcer even in the resource-rich USSR, and when the satisfaction of consumer needs called for flexible efficiency.

Stalin bequeathed to the country the industrial and technological base needed to create a formidable arsenal of nuclear weapons and a prestigious space program. This assured the USSR's status as a global superpower, but in the long run

global competition required an economic and cultural vitality that the Soviet system simply did not possess. In the political sphere, the Soviet rulers faced a familiar dilemma: if they allowed people to press their claims freely and to express their grievances, the system might not be able to handle the result. If they did not allow public discussion of social problems, not only would many problems go unresolved, but the inner alienation of Soviet citizens would continue to grow. This basic dilemma was made even sharper by the existence of national minorities at very different levels of social development.

THE KHRUSHCHEV PERIOD

De-Stalinization began as soon as Stalin breathed his last. The first sign was the announcement that the Doctor's Plot had been a frame-up. In June 1953 came the arrest of Lavrenti BERIA, the secret police chief who had been as much feared by the political elite as he was by ordinary citizens. Beria was

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tried in secret and executed.

The Denunciation of Stalin

De-Stalinization had explosive potential for the struggles within the Soviet leadership, because all the top leaders had been deeply implicated in Stalin's crimes. The person to use the weapon of de-Stalinization most skillfully was Nikita S. KHRUSHCHEV, the new secretary of the party. Combining a personal hatred of Stalin with a bold sense of political tactics, Khrushchev denounced Stalin as a tyrannical criminal in a closed speech at the 20th Party Congress in 1956. This so-called Secret Speech quickly became known throughout the world and marked a turning-point in the world Communist movement. Matching deeds to words, Khrushchev was also responsible for the liberation of millions of prisoners from the swollen labor-camp system. The return of so many victims of Stalin's terror permanently changed Soviet society.

One of these returnees was Aleksandr Solzhenitsyn, who in 1962 sought to publish his novel ONE DAY IN THE LIFE OF IVAN DENISOVICH, a short, understated, and moving description of an

ordinary worker serving time in a forced labor camp. Owing to Khrushchev's support, Solzhenitsyn's book was published. But because of the dilemmas described earlier, Khrushchev's attitude toward de-Stalinization and cultural freedom in general was erratic and inconsistent. When the novel DOCTOR ZHIVAGO by the Soviet poet Boris PASTERNAK was published abroad and earned Pasternak a Nobel Prize (1958), the Soviet government reacted with fury and incomprehension. A press campaign was mounted against Pasternak, who was forced to renounce the Nobel Prize; this despite the fact that Pasternak's book was in many ways less "anti-Soviet" than Solzhenitsyn's.

Foreign Affairs

The same erratic character marked Khrushchev's foreign policy. One memorable image of Khrushchev shows him banging his shoe angrily in the United Nations and promising to bury capitalism; another shows him standing in an Iowa cornfield eagerly learning about the latest U.S. agricultural techniques. Khrushchev preached nuclear disarmament and at the same time made crude threats about "turning out rockets like sausages." Under Khrushchev, the Soviet Union played an active role in the

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THIRD WORLD for the first time. Khrushchev was genuinely confident that socialism was the wave of the future, and the anti-Western policies of many newly independent colonial countries seemed to confirm his outlook. In the long run, however, it is far from clear who was using whom. The Third World leaders may have been manipulated by the Soviets, but they also manipulated the Soviet Union as a counterweight against the West. The USSR, for its part, found itself locked in a global competition it could not sustain. Khrushchev's support for the Castro regime in Cuba led to the CUBAN MISSILE CRISIS (1962), a confrontation with the United States in which the Soviets were forced to back down.

Domestic Policies

At home, Khrushchev's policies were characterized more by a search for a quick fix than by systematic reform. One of his major projects was the Virgin Lands campaign, which brought

under cultivation substantial reserves of agricultural land in Kazakhstan, western Siberia, and the southern Urals. Begun in 1953, its aim was to increase grain production. Khrushchev did obtain successful results during the first few years, but the sequel showed the tragic limitations of the system. The land was overworked, erosion spread swiftly, and nervous local officials hid the magnitude of the disaster from the government in Moscow. By the early 1960s, much of the Virgin Lands area had become a dustbowl.

Khrushchev's experiments did not endear him to the party elite. In 1963, for example, Khrushchev split the party in two, giving one half responsibility for industry and the other half responsibility for agriculture. The confusion engendered by this and similar schemes created support for his removal, which took place in October 1964 as the result of a widespread conspiracy among party leaders. Khrushchev's defeat was also a moment of victory for some of his basic principles: he was not executed, tried, or expelled from the party, but simply put on pension and kept from public notice. He contrived to use his time to write memoirs, which were smuggled abroad and published before his death in 1971.

BREZHNEV AND THE ERA OF STAGNATION

The party oligarchy that dismissed Khrushchev replaced him with Leonid BREZHNEV. Brezhnev is said to have been chosen as a compromise candidate who got along with people and whose main

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passions were dominoes and hunting. But he showed unexpected political skills, and by the mid-1970s his opponents had been unceremoniously removed from the top elite and a mini-Brezhnev personality cult was in full swing.

Rationalization

Brezhnev's main response to the post-Stalin crisis of communism was an attempt at professionalization and rationalization. Through increased reliance on expertise, careful discussion of government policies, streamlining of bureaucratic structures, and patient long-term strategies, the Brezhnev leadership hoped to bring the country into the second half of the 20th century. A symbol of the attempt to renounce the irrationalities of the

past was the final downfall of Lysenko, whose greatest triumph had been under Stalin, but who had also fooled Khrushchev with promises of an agricultural quick fix.

But those who hoped for Khrushchevism without Khrushchev--for continued liberalization without erratic leadership--were soon disappointed. The flip side of rationalization was an abhorrence of unpredictability and instability that made the Brezhnev leadership very suspicious of any reform initiative from below. This became crystal clear in 1968, when the reform movement initiated by the Communist party in Czechoslovakia (the Prague Spring) was crushed by Soviet tanks. This was accompanied by an enunciation of what the West came to call the Brezhnev doctrine: the Soviet Union claimed a right to intervene in other countries if the basic principles of socialism were threatened.

The 1966 trial of Andrei SINYAVSKY and Yuri Daniel also made it clear that liberalization reforms would be halted. The crime of these two fiction writers was to send works to be published abroad. But the Brezhnev leadership was determined bring an element of predictability even to repression: the ordinary citizen who had not broken the rules did not have to feel threatened with arrest.

Detente

The combination of rationalization and control also characterized Brezhnev's policy of DETENTE. Brezhnev's aims were to regularize relations with the United States and to obtain needed economic benefits from world trade, but not open

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up Soviet society so much that there was a risk of losing social or economic control. Despite a flurry of summit meetings with U. S. Presidents Nixon, Ford, and Carter, Brezhnev carried on the competition with the West in the Third World begun by Khrushchev. Soviet activities in the developing countries provoked great concern in the United States, but from today's perspective what stands out is the Soviet Union's increasing marginalization in global economic and political structures.

Political Paralysis

Brezhnev's attempts at rationalization could not compensate for the lack of any source of self-sustaining dynamic within the decaying Stalinist system. During the second half of the Brezhnev era, this became evident in a growing political paralysis at the top. Brezhnev himself never fully recovered from strokes he suffered in the late 1970s. From then on his leadership became less and less effective. Under the slogan "trust in cadres," there was very little personnel renewal at top levels. The political system seemed to be on autopilot.

The Dissident Movement

The growing stagnation in state and party was not matched by stagnation in society. On the contrary, partly in response to official paralysis, Soviet citizens exhibited great energy in pursuing their own goals. One manifestation of this autonomous activity was the dissident movement, which braved persecution in order to advance critiques of the system, discuss reform ideas, and publicize abuses. Dissident writings were circulated by means of SAMIZDAT (self-publishing): manuscripts were passed around from hand to hand or painstakingly copied on home typewriters. Similar energy was shown by black marketeers and other participants in a burgeoning underground economy.

Brezhnev's Last Years

Stagnation was also evident in foreign policy; the Soviet government seemed unable to change even clearly unproductive policies. The continued placement of nuclear-armed missiles in the western Soviet Union undid previous efforts to reassure western Europe. The quarrel with Communist China that had begun under Khrushchev escalated to serious armed clashes along the border. A final, disastrous decision was made in the

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twilight of the Brezhnev era: in late 1979, Soviet troops intervened in Afghanistan and quickly became bogged down in a long drawn-out war that was extremely costly both economically and politically.

By the early 1980s, long inattention to basic problems was

deepening into a general crisis of the whole system. Economic growth had slowed almost to a standstill. Even more ominous was a growing social--indeed, spiritual--crisis. Soviet society seemed cut off from both its past and its future. Unable to face the risks of a genuine discussion of the past, the Soviet government neither criticized Stalin nor defended him--it simply did not mention him. The old dreams of bolshevism had faded away, and the only substitute Soviet leaders could find was a nationalism that emphasized Russia and alienated the ethnic minorities. Without great hopes for either a national or a personal future, people withdrew into private concerns.

When Brezhnev finally died in late 1982, there was a widespread feeling that radical reforms were necessary. The next two party leaders--Yuri ANDROPOV and Konstantin CHERNENKO--only lasted about a year each. Not until spring 1985 was the fate of the party and the country put into the hands of a young and dynamic leader with a strong reform agenda: Mikhail GORBACHEV. GORBACHEV AND THE FINAL INTERNAL CRISIS OF THE USSR

Gorbachev's prescription for the ills of the Soviet system was what he called PERESTROIKA (restructuring). The perestroika program was based on a now-or-never feeling that time was running out for the Soviet Union: it either had to make good on the promises of socialism or sink into the status of a disregarded third-class power. Perestroika's most dramatic component was glasnost (openness). Glasnost is related to the Russian word for voice, and indeed the aim of glasnost was to give Soviet society back its voice--in the expectation of hearing constructive criticism. Gorbachev's economic aims were less bold: they combined elements of Brezhnev-style rationalization with innovative elements such as the legalization of cooperatives, which in essence were small private businesses.

In politics, Gorbachev wanted a shift of emphasis from party to state--that is, a shift from a monopoly of power by an unelected vanguard party to legislative accountability and the

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rule of law. In foreign policy, he and his foreign minister Eduard SHEVARDNADZE became global spokesmen for "new thinking"

that stressed interdependence and cooperation rather than confrontation. Gorbachev's ambitious restructuring was portrayed not as a repudiation of the system but as a radical de-Stalinization that would keep faith with Leninist ideals betrayed by Stalin.

The Progress of Perestroika

When Gorbachev set forth the outlines of this highly ambitious program, the first reaction, at home and abroad, was doubt that he was really serious. The signs in the first year or so were not completely clear. In April 1986 the nuclear disaster at CHERNOBYL was compounded by secrecy and feeble attempts at a coverup. The honor of glasnost was reclaimed, however, when Gorbachev used Chernobyl as a symbol of the sins of the old order and insisted on a policy of (almost) full disclosure. At the end of 1986 Gorbachev released Andrei SAKHAROV from his internal exile in the Volga city of Gorky (Nizhny Novgorod). Sakharov was a brilliant scientist who had become a dissident and a fearless protector of human rights during the Brezhnev era. In its usual less than wholehearted way, the Brezhnev leadership had silenced him at the time of the Afghanistan invasion by exiling him to the closed city of Gorky without right of communication.

Continued predictions in the West that perestroika was slowing down seemed confirmed in the fall of 1987 when the most outspoken defender of radical reform, Boris YELTSIN, was dropped from the top leadership amidst a chorus of old-style political abuse. But by 1988, there was no mistaking the reality of Gorbachev's reforms. Glasnost went ahead at full speed, revealing not only the crimes of the Stalin era but the full horrifying dimensions of the contemporary crisis. Gorbachev moved on with plans to create a genuinely effective national legislature. The new rules of political life were startlingly demonstrated when Yeltsin returned from disgrace and was elected to the legislature despite (or rather because of) the opposition of the party establishment. Sakharov and many other outspoken critics were also elected.

In foreign affairs, not only was there great progress on arms control, but Soviet troops were withdrawn from Afghanistan. Most spectacular of all, in 1989 Gorbachev allowed Soviet

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control over Eastern Europe to evaporate, as Communism was overthrown and independent governments were established in one satellite country after another.

The Breakup of the USSR

The only ominous note was that the economic reform seemed stalled and economic performance had begun a long downslide. By 1990 there were other growing signs of loss of control. Early in 1990 the Communist party's official monopoly of power was ended. While this move was hailed as a major step toward political pluralism, there was no political force ready to replace the party as a unifying element. In March 1990 Lithuania declared independence. Perhaps more significant than this bold move by the tiny Baltic republic was the reactivation of long-dormant feelings of independence in the Russian Federation and Ukraine. Yeltsin's election (June 1990) as president of the Russian Federation made him the main opponent of central power. Gorbachev became obsessed with preserving the union and suspicious of radical democrats who seemed to look forward to its disintegration. By the end of 1990 his shift to the right was pronounced enough to provoke Shevardnadze to resign as foreign minister while warning of a possible dictatorship.

In spring 1991 Gorbachev changed course as he came to realize that his only chance to preserve the union was to work with the leaders of the republics and not against them. For many loyal members of the party and the security forces, as well as managers of industry and collective farms, the country as they had known it was on the point of falling apart. The last stand of the old guard was an attempted coup in August 1991. It was easy for the plotters to take over the central government, but they found it impossible to topple Yeltsin and the Russian Federation government. The coup collapsed within days, and the Communist party was outlawed.

The fate of the August coup showed how little vitality was left in the Soviet Union's central government, and it was not long before appropriate conclusions were drawn. In another, quieter coup in December, the leaders of Russia, Ukraine, and Belarus declared that a COMMONWEALTH OF INDEPENDENT STATES would replace the Union of Soviet Socialist Republics. This declaration only ratified the reality of republican independence. Gorbachev bowed to the inevitable and resigned

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at the end of the year. The 74-year old history of the Soviet Union had come to an end.

Evaluation of Gorbachev

Gorbachev was admired in the West as the man who ended the cold war, for which he received the Nobel Peace Prize in 1990. At home he became highly unpopular as the dream of reform turned into the reality of collapse. Two somewhat contradictory criticisms of his leadership were heard in the Soviet Union. One blamed him for reforms that were half-hearted and tied to the discredited ideals of communism, further claiming that he woke up too late to the problems of the nationalities, and that his commitment to a central union led him to sully his name with ineffective repressive measures. According to the other criticism, Gorbachev went too far too fast: he destroyed the effectiveness of coordinating mechanisms such as the central planning organs and the party without putting anything in their place. The fact is that Gorbachev started a process of renewal that he could not control. Probably no one else could have done much better, given the inner contradictions of communism.

SOVIET INSTITUTIONS AND CULTURAL LIFE

The central fact of Soviet political life was what the Soviet constitution called "the party's role as leader." In practice, this meant that the Communist party made the basic decisions and intervened in day-to-day government activities to the extent necessary to carry them out. The CPSU itself was an unelected body that chose new members according to its own standards. During the Brezhnev era it was a fairly faithful reflection of the country's elite. Theoretically the internal life of the party was controlled by the membership as a whole, which elected delegates to party congresses every five years or so. In reality the party was highly centralized, and elections of party officials merely ratified appointments from above.

The Structure of the CPSU

The Soviet Communist party consisted of three levels that were separate from each other in many ways. At the top was the POLITBURO, a body of 10 to 20 people theoretically elected by the party congress. Since Stalin's day the de facto leader of the politburo was the general secretary, who was also responsible for the work of the secretariat, an organization

that might be regarded was the party's top civil service. The

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politburo reported regularly to the central committee, a large body with several hundred members. The only time the central committee had decisive influence was if there was a serious split in the politburo oligarchy.

The central committee also had importance because it represented the second level of the party: the regional first secretaries and the local party bureaucrats (often called apparatchiki). These local party officials were responsible for the overall performance of the regions entrusted to them. Both Gorbachev and Yeltsin were local party bosses before moving on to the national level. Yeltsin's memoir *Against the Grain* (1990) contains a revealing picture of the life of a regional secretary during the Brezhnev era.

At the lowest level was the rank-and-file membership of the party. Members were expected to help carry out party directives, but they had little influence over decision-making. In fact, although party membership was necessary for any ambitious career, it did not otherwise confer much power or privilege.

In form, the party could be compared to a parliamentary system. The regular members were the electorate, the central committee was the legislature, the politburo was the cabinet, the secretariat was the civil service, and the general secretary was the prime minister. The only difference was that power and authority flowed from the top down, not from the bottom up. But the comparison is revealing, because it shows that in the Soviet Union the party was the political substance and the state was only a shadow. There were elected bodies at all levels of the state, culminating in a supreme soviet (parliament) at the top. (The word SOVIET means "council" and referred originally to class-based self-governing committees created by workers during the Russian Revolution.) Nominations, however, were controlled by the party, and since only one candidate was nominated for each post, the elections were almost meaningless.

State Services and Controls

If the Soviet state was thus much weaker than its counterparts in western countries, it was in other ways much stronger, since it ran the entire economy. Each industry was controlled by an economic ministry that can be thought of as a huge monopolistic

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corporation with its headquarters in Moscow. The council of ministers that was supposed to coordinate their activities was equivalent to a huge gathering of the country's CEOs.

The day-to-day job of economic coordination was entrusted to state planning organs. Control by planners had severe limits, however, mainly because of the difficulty they had in obtaining reliable information. Economic outcomes were the result of complex negotiations between local managers and the center. Paradoxically, the commitment to central planning led to a large amount of unpredictability at all levels. Although the system was often called a "command economy," it was firmly based on material incentives, such as bonuses for plan fulfillment.

Central control went far beyond the economy. One tool of control were security forces that were used not only to punish dissidents but to preserve the country from outside influence. The media was also strictly censored, and nothing could be published without the party's approval.

The state also controlled education and health care. A comprehensive system of free primary, secondary, and higher public education succeeded in virtually eliminating illiteracy in the USSR by the 1960s. Health care was also free and available to all. In line with official Marxist ideology, a systematic effort was made to eliminate the influence of religion in Soviet society.

The insistence on central control was the major reason why Soviet official art generally enjoyed little prestige outside the USSR. Immediately after the revolution there was considerable ferment in literature, theater, and other areas, but to a large extent this was a continuation of a creative explosion that had begun in the decade before the revolution. After this burst of energy calmed down, there was little to

replace it. One area in which official art of the Stalin area did have world influence was music: works by Sergei PROKOFIEV and Dmitry SHOSTAKOVICH have found a permanent place in western symphonic repertoires.

Prospects for the Future

Many of the dilemmas that defeated Communism will remain alive in other forms to plague the successor states of the USSR. It

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will not be easy for these new nations to find a stable way of living together now that the heavy hand of the Kremlin has been removed. Russia will no doubt discover that the market system as a road to national greatness also has many potholes and unexpected detours. The task of creating responsive and responsible political structures will be complicated by an ongoing economic and social crisis.

Communism was a great glacier that locked up human energies for generations. Now that it is melting, many catastrophes are inevitable. But there is also a new chance to create a livable environment. To make good on that chance is a challenge not only for the peoples of the former Soviet Union, but for the whole world.

Lars T. Lih

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European Russia was occupied by Indo-European and Ural-Altaic peoples from about the 2d millennium BC. Among the peoples present in the steppe north of the Black Sea were the CIMMERIANS. They were conquered by the SCYTHIANS in the 7th century BC. The Scythians in turn were largely displaced by the SARMATIANS in the 3d century BC. In the early centuries AD a succession of tribes, the GOTHs, the HUNS, and the AVARS, ruled the area. The KHAZARS (7th century) and the Bulgars (8th century) established substantial states. Slavic settlements in the area are documented from the 6th century on.

MEDIEVAL RUSSIA

The SLAVS probably came from southern Poland and the Baltic shore and settled in the region of mixed forest and meadowlands north of the fertile but unprotected steppe lands of the south. The Slavs engaged in agriculture, hunting, and fishing and gathered products of the forest. They settled beside the rivers and lakes along the water route that was used by VIKING warrior-traders (the Varangians) to reach Constantinople. Using their superior military and organizational skills, the Varangians exacted tribute from the Slavs and to this end consolidated their rule in key points on the route to Constantinople. About 862 a group of Varangians led by RURIK

took control of NOVGOROD. From there Rurik moved south and established (879) his authority in KIEV, strategically located above the Dnepr rapids where the open steppe met with the belt of Slavic settlements in the forest-meadow region.

Kievan Rus'

Under Rurik's successor, Oleg (d. c.912), Kiev became the center of a federation of strong points controlled by Varangian "dukes" who soon became Slavized in language and culture. Attempts by Duke SVYATOSLAV I (r. 945-72) to create an "empire" in the region between the Dnepr and Danube failed, but Kiev was effectively protected from nomads in the east by the Khazar state on the Volga. With the conversion (c.988) of Duke VLADIMIR I to Eastern Christianity, Kiev developed into a major cultural center, with splendid architecture, richly adorned churches, and monasteries that spread Byzantine civilization.

The political and cultural apogee of Kievan Rus' was reached under YAROSLAV the Wise, who ruled from 1019 to 1054. Politically, Kiev was the center of a federation of

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principalities tied together by their rulers who claimed to be descendants of Rurik. The unity of Kievan Rus' was more of an ideal than a reality (many internal feuds existed), but it served as an inspiration to later generations. The socioeconomic base of this polity has been a subject of controversy; liberal historians have singled out the trading role of the princes and their retinues (druzhina), whereas Soviets historians insisted on the primacy of agriculture and artisanal production. Probably trade was the mainstay of political power, and agriculture (complemented by hunting and fishing) was the major occupation of the population.

Culturally, Kiev served as the agent of transmission for Byzantine civilization--Orthodox Christianity and its art (music, architecture, and mosaics); it also developed, however, into the creative center of a high-level indigenous culture represented, in literature, by the sermons of Hilarion (d. after 1055) and Vladimir Monomakh (d. 1125); in historiography, by the early-12th-century Primary Chronicle; in law, by Yaroslav's codification, Pravda; and in monastic

life, by Kiev's 11th-century cave monastery (Lavra). This culture served as the common foundation for the later Ukrainian, Belorussian, and Great Russian civilizations.

The decline of Kievan Rus' (starting in the late 11th century) was brought about by internecine feuds, by a change in Byzantine trade patterns--which made the old river route obsolete--and by the depopulation resulting from slaughter by nomadic invaders from the east. The end, however, came swiftly when the MONGOLS, surging forth from Central Asia, overran the South Russian plain. Kiev was sacked in 1240, and the Mongol khans of the GOLDEN HORDE at Sarai on the Volga established their control over most of European Russia for about two centuries.

Mongol Rule

The overlordship of the Mongols (see also TATAR) proved costly in economic terms, because the initial conquest and subsequent raids to maintain the Russians in obedience were destructive of urban life and severely depleted the population. Equally costly--even to cities that escaped conquest, such as Novgorod--were the tribute payments in silver. Politically the yoke was not burdensome, for the Mongols ruled indirectly through local princes, and the church was even shown respect

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and exempted from tribute (enabling it to assume a cultural and national leadership role). The most deleterious long-lasting effect of Mongol rule was isolation from Byzantium and western Europe, which led to a turning inward that produced an aggressive inferiority complex. The exceptions were the free cities of Novgorod and PSKOV, ruled by oligarchies of merchants (the princes, such as ALEXANDER NEVSKY, were merely hired military leaders) in active contact with the HANSEATIC LEAGUE.

Rise of Moscow

In the shadow of Mongol overlordship and in the harsh environment of central Russia, to which the population had fled from the south, the society and polity of MOSCOW, or Muscovy, developed. Members of the ruling family of Kievan Rus' had seized free lands in the northeast and colonized them with

peasants to whom they offered protection in return for payments in money and kind. Each one of these princes was full master of his domain, which he administered and defended with the help of his retainers (BOYARS). A semblance of family unity was maintained by the claim of common descent from Rurik and of a "national" consciousness based on the Kievan cultural heritage. Taking advantage of genealogy, Mongol favor, church support, geographic situation, and wealth, some of the local princes--for example, those of VLADIMIR, YAROSLAVL, Moscow, Suzdal, and Tver--became dominant in their region and gradually forced the weaker rulers (along with their boyars) into their own service. Of these principalities Moscow gradually emerged as the most powerful. Its ruler Ivan I (Ivan Kalita; r. 1328-41) was granted the title grand duke of Vladimir by the khanate as well as the right to collect tribute for the Mongols from neighboring principalities. His grandson DIMITRY DONSKOI won the first major Russian victory over the Mongols at Kulikovo (1380). Finally, after victory in a fierce civil war, the elimination of a main rival at Tver (1485), and the winning over of most small independent princes, IVAN III, grand duke of Moscow (r. 1462-1505), emerged as the sole ruler in central Russia. The Golden Horde had regained control after Kulikovo, but a century later it was seriously weakened by internal strife. In 1480, therefore, Ivan III successfully challenged Mongol overlordship by refusing the tribute.

Moscow's triumph was not complete, however, because another putative heir to Kiev remained--the Grand Duchy of Lithuania, to whose rule many of the independent princes of the southwest

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and the large boyar retainers of Belorussia had gravitated. To the south and east the Muslim successors of the Golden Horde, the khanates of Kazan, Astrakhan, and the Crimea, were serious threats to Muscovy's security.

Although Moscow's annexation of Novgorod (1478) and Pskov (1510) gave it access to the profitable Baltic trade and control over the far-flung colonial lands of the northeast, it also opened the gates to religious and cultural challenges to the spiritual and artistic self-sufficiency and provincialism of central Russia. A conflict arose between church and state as well as between cultural nativism and innovation; it ended,

in the second quarter of the 16th century, in a compromise that reaffirmed and strengthened the political values of Moscow (autocracy) while respecting the economic power and position of the church and liberalizing its cultural life to admit the influences from the Balkans and western Europe. Yet the strain between those who wanted a spiritualistic church, divested of worldly wealth (the nonpossessors, or Volga Elders), and the possessors, followers of Joseph of Volokolamsk (d. 1515), who wished to retain the church's wealth and institutional power, continued to affect Muscovite cultural life.

Organization of the Muscovite State

The main political task of the grand dukes of Moscow was the absorption of formerly independent princes and their servitors into the service hierarchy of Moscow. This absorption was achieved by expanding the membership of the boyar council (duma) to include the newcomers. A system of precedence (mestnichestvo) based on both family status and service position kept the boyar class divided. In addition, from the late 15th century on, the grand duke created a class of military servitors (dvorianstvo) entirely subordinated to him by grants of land on a temporary basis, subject to performance of service. The peasantry remained outside this system, with village communes taking care of local fiscal and police matters. Towns were under the direct rule of the grand duke's representatives and enjoyed no municipal freedoms.

The culmination of absolutism was dramatically symbolized by the grandson of Ivan III, IVAN IV (r. 1533-84). Assuming (1547) the title of tsar, he underlined his claim to the succession of both Byzantium and the Golden Horde. The conquests of the khanates of Kazan (1552) and Astrakhan (1556)

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followed, putting the entire course of the Volga under Russian control. These conquests initiated further expansion (1581) into Siberia, whose western regions were conquered by the Cossack leader YERMAK TIMOFEYEVICH, sponsored by the Novgorod family of salt merchants, the Stroganovs.

Relying on his absolute power and increased military potential, Ivan IV attempted to eliminate the competition of Lithuania and

gain a port on the Baltic. The 25-year war (1558-83) against Poland-Lithuania, Livonia, and Sweden--accompanied by several devastating raids of Crimean Tatars against Moscow (for example, in 1571)--ended in failure and seriously debilitated the country. To mobilize all resources and cope with internal opposition, Ivan IV set up his own personal guard and territorial administration (oprichnina, 1565-72), whose exactions and oppression did great damage to both the economy and the social stability of the realm. The combined needs of the military servitor class for labor and of the government for tax-paying peasants led to legislation limiting the mobility of peasants. The edicts of Ivan's successors (Fyodor I, r. 1584-98, and BORIS GODUNOV, r. 1598-1605) initiated a process that culminated in the complete enserfment of the Russian peasantry (Code of 1649).

THE 17TH AND 18TH CENTURIES

The Muscovite dynasty ended in 1598 with the death of Ivan IV's son Fyodor I. Real power during Fyodor's reign had been exercised by his brother-in-law Boris Godunov, who was chosen to succeed him. Although Boris was a strong ruler, he was regarded by many as a usurper. The exhausted country was, therefore, precipitated into turmoil marked by the appearance of a series of pretenders to the throne and provoking invasions by Poland, Sweden, and the Crimean Tatars (see TIME OF TROUBLES; 1598-1613). Disgruntled boyar families, enserfed peasants, COSSACKS, and lower clergy tried in turn to take advantage of the anarchy, but none succeeded. Eventually, a militia of noble servitors (dvoriane) and townspeople of the northeast, based in Nizhni Novgorod, expelled the Poles from Moscow, drove back the Swedes and Cossacks, and elected young MICHAEL Romanov as tsar in 1613. The ROMANOV dynasty was to rule Russia until 1917.

An Era of Conflict

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Beneath a veneer of traditional forms and static structures profound changes took place in the course of the 17th century, changes that resulted in religious, cultural, political, and socioeconomic disarray. Efforts at reforming the church

structure and at modernizing the ritual along Byzantine and Ukrainian lines, led by NIKON (patriarch from 1652 to 1666), were resisted in the name of earlier spiritualist traditions by large segments of the population (led by monks and parish priests). These OLD BELIEVERS, about 25 percent of the population, were persecuted by the state and virtually split away from official culture and civil society. In suppressing the Old Believers the church lost much of its moral authority and autonomy vis-a-vis the state.

The cultural gap between the elites and the people was deepened by political, social, and economic conflicts: urban strife at times threatened the stability of the regime itself (for example, the salt riots of Moscow, 1648, and revolts in Pskov and Novgorod, 1650). The military servitors' struggle to establish full control (legalized by the Code of 1649) over their peasants led to numerous revolts. In 1670-71 dissatisfied Cossacks, persecuted Old Believers, escaped serfs, and disgruntled urban elements joined forces under Stenka RAZIN in a revolt that swept the entire Volga valley and threatened Moscow itself.

The religious crisis exacerbated the cultural conflict over the extent and character of Westernization. Trade contacts, especially with England and the Dutch, brought foreigners to Russia, and diplomatic exchanges grew more frequent as Russia became involved in European military and diplomatic events. The importation of Western technological innovations for military purposes brought in their wake foreign fashions and cultural goods.

The trend was reinforced following the incorporation of eastern Ukraine (1654). The ecclesiastical academy in Kiev (founded in 1637 by the Ukrainian churchman Peter Mohyla) educated future clergy (and some laymen) according to contemporary European neoscholastic philosophical and juridical curricula; its graduates often continued their studies at central and western European universities. Better trained and more learned than the native Muscovite clerics, the graduates of the Kievan academy were welcomed in Moscow. They were the first to organize regular schools there (for example, the

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Greco-Latin Slavonic Academy), and they brought Western political and juridical works and belles-lettres to the Kremlin court. The winds of culture and art blowing from the west also helped change Muscovite tastes in architecture, icon painting, church music, and poetry--changes in style that are usually labeled Moscow baroque. These foreign and innovative influences helped smooth the path for the forceful Europeanization that followed under Peter I.

The government, especially under Tsar ALEXIS (r. 1645-76), tried to cope with the difficulties by centralizing the local administrations (prikazy, or departments) under direct supervision of the boyar дума and the tsar, assisted by professional hereditary clerks (diaki). Naturally, the fiscal burden grew in proportion to centralization. To ensure domestic control and to carry on an active foreign policy (for example, the annexation of the Ukraine in 1654 and wars with Poland leading to a "perpetual peace" in 1686), a professional army of streltsy (musketeers) and foreign mercenaries and modernized technology were introduced. Although absolutism was retained intact, factionalism and palace coups became more frequent and made pursuing coherent policies difficult. When Tsar Fyodor III died in 1682 the situation was ripe for the energetic intervention of a genuine leader. After the brief but tumultuous regency of SOPHIA, 1682-89, Fyodor's half brother Peter grasped the opportunity.

The Reforms of Peter the Great

By dint of his driving energy and ruthlessness, PETER I (r. 1682-1725) transformed Russia and brought it into the concert of European nations. A struggle of almost 20 years with CHARLES XII of Sweden (1700-21; see NORTHERN WAR, GREAT) and wars with Ottoman Turkey (1710-11) and Persia (1722-23) radically changed Russia's international position (symbolized by Peter's assumption of the new title of emperor in 1721). By the Treaty of Nystad (1721) with Sweden, Russia acquired the Baltic province of LIVONIA (including Estonia and most of Latvia), giving it a firm foothold on the Baltic Sea and a direct relationship with western Europe. In the south gains were modest, but they marked the beginning of a Russian imperial offensive on the Black and Caspian seas.

These territorial gains, requiring much effort and great expenditures of labor and resources, forced Peter to transform

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the institutional framework of the state and to attempt a restructuring of society as well. The central administration was streamlined along functional lines: a set of colleges on the European model displaced the prikazy, and a senate of appointed officials replaced the boyar дума; the church was put under direct state administration with the abolition of the patriarchate and the establishment of a Holy Synod (1721) of appointed ecclesiastical members supervised by a lay official. A navy was created, and the army was reorganized along professional Western lines, the peasantry furnishing the recruits and nobility the officers. The local administration, however, remained a weak link in the institutional chain, although it maintained the vast empire in obedience. The peasantry was subjected to compulsory labor (as in the building of the new capital, SAINT PETERSBURG, begun in 1703) and to military service, and every individual adult male peasant was assessed with a head, or poll, tax. By these measures the state severed the last legal ties of the peasants to the land and transformed them into personal serfs, virtually chattel, who could be moved and sold at will.

Other classes of society were not immune from state service either. Compulsory, lifelong service was imposed on the nobility, and their status was made dependent on ranks earned in military or administrative office (the Table of Ranks of 1722 also provided for automatic ennoblement of commoners through service). State service required education, and Peter introduced compulsory secular, Westernized schooling for the Russian nobleman. While resistance to compulsory service gradually forced its relaxation, education became an internalized value for most nobles who were culturally Westernized by the mid-18th century.

Peter failed to reshape the merchants into a Western bourgeoisie, however, and his efforts at modernizing the economy had mixed results. The clergy turned into a closed castelike estate, losing its spiritual and cultural influence. The limitations of Peter's reforming drive were due to the inherent paradox of his policy and approach: he aimed at liberating the creative forces of Russian society, but he expected to accomplish this liberation only at his command and through compulsion, at a pace that precluded an adaptation of traditional patterns and values. He succeeded in transforming the upper class but failed to change the common people; the deep cultural gulf in the long run undermined the regime.

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The Imperial Succession

Peter's impetuousness did not allow the new structure and patterns to congeal, and after his death (1725) instability plagued the new institutional setup. Having had his son, Alexis, tortured to death for alleged treason, Peter abolished the traditional practice of succession, declaring (1722) that the emperor could choose his successor. For the next half-century the throne was exposed to a series of palace coups instigated by cliques of favorites and dignitaries with the support of the Guards regiments. After the reign (1725-27) of Peter's widow, CATHERINE I, Peter II (r. 1727-30), ANNA (r. 1730-40), Ivan VI (r. 1740-41), ELIZABETH (r. 1741-62), and CATHERINE II (r. 1762-96), who supplanted her husband, PETER III, all came to the throne in this manner. The only serious attempt at limiting the power of the throne (1730), however, failed because of divisions among the nobility and their continued dependence on state service. The autocracy managed to keep the nobility in subordination by promoting the economic status of that class through salaries, gifts, and the extension of its legal rights over the serfs, particularly following the traumatic experience of the great peasant uprising (1773-75) under Yemelian PUGACHEV.

The government proved unable to regularize its structure and practices through a code of laws because it was feared that such a code would delegate power to impersonal institutions. Personalized authority was favored by most subjects, however, as a protection against abuses of officials and as a source of rewards.

The tension between a rational and automatic rule of law and a personalized authority was never resolved in imperial Russia.

Expansion and Westernization

Two important processes dominated the 18th century. The first was imperial expansion southward and westward. The southern steppe lands were gradually settled by Russians, and the autonomous local social groupings--especially the Cossacks (whose hetmanate in the Ukraine was abolished in 1764)--lost

their status and were assimilated into Russian serf society. The process was formally completed by the Treaty of Kucuk Kainarji (1774), ending the first major RUSSO-TURKISH WAR, by

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which Russia secured the northern shore of the Black Sea, and by the annexation (1783) of the Crimea, which put an end to the nomadic threats from the southeast. By extending (1783) serfdom to the Ukraine the economic integration of that area with Russia was achieved, and its large, prosperous estates were soon able to feed a growing urban population and to export grain abroad.

The empire's expansion westward was the result of the Partitions of Poland (1772, 1792, 1795; see POLAND, PARTITIONS OF), which awarded Russia most of the eastern and central regions of the Polish-Lithuanian Commonwealth. This expansion enhanced Russia's economic potential and brought it closer to western Europe, but it also burdened the empire with unsolvable national and religious problems and saddled it with onerous diplomatic, military, and police tasks.

In the past, apart from the incorporation of small Finnish and Siberian tribes, Muscovy had known only one major territorial conquest involving non-Russian and non-Christian peoples--that of the Tatars of the Volga in the 16th century. Their elites were quite successfully incorporated into the tsar's service nobility (most eventually became Christians); as for the common folk, they were subject to a special tribute (iassak), but their internal tribal affairs were left to the care of traditional elders and chieftains. The imperial acquisitions of the 18th century, however, brought a number of new nationalities under Russian rule: Ukrainians, Poles, Crimean Tatars, Jews, Estonians, Latvians, Lithuanians, and Baltic Germans. Wherever workable, these nationalities' elites were recruited into the military and civil establishments. The common people continued to be allowed their own traditional institutions, provided they paid their taxes. The Russian church was discouraged from proselytizing. Legal disputes were resolved according to native customary law if no Russians were involved; otherwise Russian law took precedence. Before the birth of modern nationalism in the 19th century this approach worked well enough so that the imperial administration and the

Russian elites were able to ignore the multiethnic character of the empire.

The second process shaping 18th-century Russia is best characterized as the cultural Westernization of the Russian elites. It was furthered by the establishment of new educational institutions (the Academy of Sciences, 1725; the

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University of Moscow, 1755; and military and private schools), the creation of a modern national literature along Western lines (exemplified in the work of Mikhail LOMONOSOV and Aleksandr SUMAROKOV), and the beginnings of scientific research and discoveries (Lomonosov). Increased sophistication heightened yearnings for free expression and implementation of enlightened Western moral and social values. It led to a conflict between state control and educated society's demand for creative freedom and to the emergence of an oppositionist intelligentsia. In 1790, for example, Aleksandr RADISHCHEV denounced the moral evils of serfdom in *A Journey from Saint Petersburg to Moscow*.

Imperial expansion and cultural Westernization were accompanied by economic modernization. Russia became a notable producer of iron, lumber, and naval stores (pine products) and witnessed the expansion of urbanization and social amenities. Catherine II intensified these developments and reaped their benefits. In February 1762 the nobles had been freed from compulsory state service by Peter III and had been given the right to travel abroad. But their corporate status, security of person and property, and local administrative function had not been clarified. This was even truer of the other free classes. In order to obtain reliable and comprehensive information on conditions in the empire (and to bolster her own legitimacy) Catherine convoked (1767) an assembly of elected delegates from the free estates of the realm. The deputies were expected to draft and bring to the assembly "instructions" (nakazy) listing the conditions and needs of their electors. This "Legislative Commission" was soon disbanded, but the instructions and debates gave Catherine ample material for a picture of what the various free classes of the population expected from her. In response she decided that Russian society should contribute more directly to economic activity.

To this end she fostered security of property and person, at least for members of the upper classes. In implementing this goal she followed two paths. First, by the Statute on the Provinces (1775) she concentrated the administration of the empire by breaking up its territory into manageable units (guberniia) under appointed governors responsible to the sovereign and accountable to the senate. Governors were to be assisted by boards of officials organized according to function and, on the district level, by police officers elected by, and from among, the local nobility or wealthy urban population.

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Second, the empress planned to promote the formation of a civil society by granting the three principal estates of the realm the right to form corporations. These would serve to register their members, and to protect group interests, as well as each individual member's person and property. The Charter to the Nobility (1785) put local resident nobles in charge of district police, some judicial matters, and the protection and supervision of orphans, widows, and incapacitated persons. The Charter to the Towns (1785) similarly gave an active administrative role to urban elites, while reserving paramount authority to governors and appointed officials. A third charter giving state peasants a degree of self-government on the village level was drafted but never implemented.

Though the practice fell far short of the intention, Catherine II did lay the foundations for the emergence of a provincial civic and cultural life--a prerequisite for the modernization of Russia in the 19th century.

THE 19TH CENTURY

Alexander I

Catherine's grandson ALEXANDER I, who succeeded to the throne after the brief reign (1796-1801) of his unbalanced father, PAUL I, intended to give regular institutional form to the results of the social and cultural evolution of the 18th century. The first years of Alexander's reign were marked by intensive efforts at reforming the administration and at expanding the educational facilities. Although the reforms did

not bring about constitutionalism or limit the autocracy, they did inaugurate rapid bureaucratization with better trained officials.

Russia's involvement in the NAPOLEONIC WARS proved in some ways an impediment to the normal evolution of the country. NAPOLEON I's invasion of Russia in 1812, although ending in his own defeat, was hardly a victory for Russia. The wars proved costly, and the ultimate political gains (Finland, penetration into the Caucasus) were rather slim despite Alexander's diplomatic role after 1815 (notably in the HOLY ALLIANCE). On the other hand, the reconstruction of devastated territories along the route of the French invasion and of Moscow (largely destroyed by fire during the French occupation) gave great impetus to an economic takeoff and involved entrepreneurial initiatives by peasants and urban commoners. It resulted in a

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rapid expansion of textile manufactures and the building trades, which generated capital and resources for later Russian industrialization.

During the wars the younger generation of educated society had acquired self-confidence and a desire to be of use to their country and people; upon the return of peace they tried to put their ideals into practice. Unavoidably, this led to a clash with a government that was loath to give society genuine freedom and that, after 1815, became more restrictive and obscurantist. Secret societies were organized under the leadership of progressive officers, and, on the sudden death of Alexander I in December 1825, they tried to take over the government. This abortive insurrection of the DECEMBRISTS traumatized Alexander's successor, his brother NICHOLAS I, into a policy of reaction and repression.
Nicholas I

Nicholas I's reign, however, was by no means static, and it proved seminal in many respects. In spite of strict censorship, the golden age of Russian literature occurred with the work of Aleksandr PUSHKIN, Nikolai GOGOL, the young Fyodor DOSTOYEVSKY, Leo TOLSTOI, and Ivan TURGENEV. Accompanying this literary flowering, discussion circles sprang up in Moscow and Saint Petersburg in which the intelligentsia debated Russia's identity, its historical path and role, and its relationship to

western Europe (the SLAVOPHILES AND WESTERNIZERS represented the two main lines of interpretation that emerged).

Nicholas was unfavorably disposed to the humanities and limited admissions to the universities, but he promoted technical and professional training. During his reign a number of technical institutions of higher learning were founded, and state support for needy students in professional schools was expanded. By the end of the reign a cadre of well-trained professionals and officials had been prepared to carry out reforms. Nicholas's government also brought to a successful conclusion the codification of laws (1833; the achievement of Mikhail SPERANSKY), which enabled an orderly and systematic economic development of the country. The building of railroads was initiated, the currency was stabilized, and protective tariffs were introduced. As a result private enterprise was activated, especially in consumer goods (textiles), in which even peasant capital and skill participated. These developments only served to underscore the backward nature of an agrarian economy based

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on serf labor. Nicholas was well aware of this, but, fearing political and social disturbances, he did not go beyond discussions in secret committees and the improvement of the administration of state peasants.

All the while, however, his government encouraged middle-rank officials to collect accurate and comprehensive data on Russia's economic and social condition. The Imperial Geographic society sponsored expeditions and statistical surveys that eventually provided the government with information needed to undertake reforms.

The government's timidity was conditioned not only by fear of a peasant uprising and a distrust of the nobility but also by its international policies. Nicholas's reign was for the most part peaceful, although Russia did participate in securing Greek independence (1828-29) and in curtailing Turkish power in the Black Sea. Nicholas also acted as the "gendarme of Europe" when he crushed the Polish insurrection of 1831-33 and helped Austria subdue the Hungarians in 1849. The empire further expanded in the Far East (in the Amur River valley). At the end of his reign Nicholas embroiled Russia in the CRIMEAN WAR

(1853-56). Although the immediate cause of the war was a dispute over the guardianship of the Holy Places in Palestine, underlying the conflict was the EASTERN QUESTION, the prolonged dispute over the disposition of the territories of the fast-declining Ottoman Empire. The Russians fought on home ground against British and French troops assisted by Sardinian and Austrian forces. The course of the war revealed the regime's weaknesses, and the death (1855) of Nicholas allowed his son, ALEXANDER II, to conclude a peace (the Treaty of Paris, 1856) that debarred Russian warships from the Black Sea and Straits.

Alexander II and Emancipation of the Serfs

Russian society now expected and demanded far-reaching reforms, and Alexander acted accordingly. The crucial reform was the abolition of serfdom on Mar. 3 (N.S.), 1861. In spite of many shortcomings it was a great accomplishment that set Russia on the way to becoming a full-fledged modern society. The main defects of the emancipation settlement were that cancellation of labor obligations took place gradually, the peasants were charged for the land they received in allotment (through a redemption tax), and the allotments proved inadequate in the

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long run. The last was a consequence of demographic pressures due to the administrative provisions of the act that restricted the mobility of the peasants and tied them to their village

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commune, which was held responsible for the payment of taxes; the former serfs remained second-class citizens and were denied full access to regular courts. Nevertheless, 20 million peasants became their own masters, they received land allotments that preserved them from immediate proletarianization, and the emancipation process was accomplished peacefully.

Three other major reforms followed emancipation. The first was the introduction (1864) of elected institutions of local government, zemstvos, which were responsible for matters of education, health, and welfare; however, the zemstvos had limited powers of taxation, and they were subjected to close bureaucratic controls. Secondly, reform of the judiciary introduced jury trials, independent judges, and a professional class of lawyers. The courts, however, had no jurisdiction over "political" cases, and the emperor remained judge of the last resort. Finally, in 1874, the old-fashioned military recruiting system gave way to universal, compulsory 6-year military service.

Taken together, the reforms marked the end of the traditional socioeconomic system based on serfdom, and set Russia fully on the path to an industrial and capitalist revolution that brought problems of urbanization, proletarianization, and agrarian crisis in its wake. In part the difficulties resulted from unpreparedness and reluctance on the part of landowners (and many among the intellectual elites) to make necessary adjustments in their economic practices and social attitudes; but they were also caused by government policies that hindered the emergence of a genuine capitalist bourgeoisie and industrial labor force.

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The impetus for reform was thwarted and arrested by external and domestic events. Externally, the Polish rebellion of 1863-64 gave pause to the government and, by exacerbating nationalistic feelings, strengthened the conservative opposition to further reforms. The Russo-Turkish War of 1877-78 undermined the financial equilibrium, and chauvinistic passions were aroused when the Treaty of San Stefano, which greatly increased Russian influence in the Balkans, was substantially revised by the Congress of Berlin (see BERLIN,

CONGRESS OF). At home in the 1860s radical university students and nihilist (see NIHILISM) critics such as Nikolai CHERNYSHEVSKY voiced dissatisfaction with the pace and direction of the reforms. Radical associations were formed to propagandize socialist ideas, and student youth "went to the people" in 1874-76 to enlighten and revolutionize the peasantry. Repressed by the government, the young radicals turned to terrorism. Eventually a group of NARODNIKI (populists) called the People's Will condemned the emperor to death, and after several dramatic but unsuccessful attempts they killed him on Mar. 13 (N.S.), 1881.

Alexander III

Alexander II's violent death inaugurated the conservative and restrictive reign of his son ALEXANDER III. Nonetheless, the process of social and economic change released by the reforms could not be arrested. Now society proved more dynamic and took the lead in the drive for modernization and liberalization; the government, on the other hand, incapable of giving up its autocratic traditions, acted as a barrier. The deepening agrarian crisis--dramatized by the famine of 1891--turned the active elements from criticism to overt opposition. At the same time, industrialization energetically pushed by Sergei WITTE, minister of finance (1892-1903), brought in its wake labor conflict, urban poverty, and business cycles.

Expansion and Russian Nationalism

The acquisition of CAUCASIA, under Nicholas I, had required lengthy and difficult campaigns against mountain populations using guerrilla tactics to defend themselves. During the reign of Alexander II, largely on local military initiative, the independent or autonomous Muslim principalities of CENTRAL ASIA

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were brought under Russian control and turned into virtual colonies for economic exploitation and peasant settlement.

Paralleling the south and southeastward expansions of the empire, the governor-general of Siberia, Nikolai N. Muraviev, forced China to relinquish control over the lower course of the

Amur River (Treaty of Aigun, 1858), opening up the Pacific shore to Russian penetration and settlement. The Russian Empire thus increased its territory and developed a genuinely colonial approach to the newly incorporated lands and peoples. With the possible exception of Georgia (incorporated early in the 19th century), native leadership was not absorbed into the Russian nobility or cultural elite, as had been the case in earlier conquests. New administrative practices developed in these territories with the help and participation of the military resulted in the imposition of oppressive rule and socio-economic discrimination against the native populations.

The Slavophile-Westernizer debates over the nature of Russian national identity in the 1830s undoubtedly contributed to a more aggressive and self-centered sense of Russian nationalism, which received strident expression during the Polish revolt of 1863 and the Russo-Turkish War of 1877-78. It prompted the government to embark on a consistent policy of Russification and harsh repression of nationalist movements among the non-Russian peoples of the empire. Imperial decrees restricted the use of the Ukrainian language and the privileged status of the Germans in the Baltic provinces. Paradoxically, the actions against the Baltic Germans encouraged the growth of nationalist feeling among the Latvians and Estonians, whom the Germans had dominated. The suppression of the Polish uprising of 1863 was followed by energetic Russification measures aimed at eliminating the Polish language and Polish culture from public life.

Under Alexander III, discriminatory laws against Jews, involving residential restrictions and limited access to secondary and higher education, were reinforced and harshly applied. At the same time, the government did little to control pogroms or anti-Jewish riots (see POGROM). Hundreds of thousands of Jews emigrated to Western Europe and the United States, and many who aspired to professional education and cultural assimilation were driven into the arms of radical political parties.

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These policies continued unabated under Alexander's son Nicholas II, whose government also curtailed Finland's

traditional autonomy.

Nicholas II

Nicholas succeeded his father in 1894. The new emperor soon dashed society's hopes for political and social reform. To deflect attention from the worsening social situation and to neutralize the revitalized revolutionary movement, especially among the workers, the government embarked on imperialist adventures in the Far East, provoking a war with Japan (1904-05; see RUSSO-JAPANESE WAR). Russia suffered a humiliating defeat, although the peace terms (Treaty of Portsmouth, 1905) were less onerous thanks to the mediation of U.S. president Theodore ROOSEVELT and Japan's exhaustion.

The war triggered widespread disturbances within Russia, including rural violence, labor unrest (in Saint Petersburg troops fired on a large crowd of demonstrating workers; Bloody Sunday, Jan. 22, 1905), and naval mutinies (most notably, that led by sailors of the battleship Potemkin in Odessa, June 1905). The turmoil of the RUSSIAN REVOLUTION OF 1905 culminated in the general strike of October, which forced Nicholas II to grant a constitution. Russia received a representative legislative assembly, the DUMA, elected by indirect suffrage. The executive, however, remained accountable only to the emperor. Limited as its powers were (the suffrage was further restricted in 1907), the Duma made the government more responsive to public opinion. From 1906 to 1911 the government was directed by Pyotr STOLYPIN, who combined repressive action with land reforms to improve the position of the peasants.

The new political activity contributed to the remarkable upsurge of Russia's artistic and intellectual creativity (called the Silver Age) that lasted until the outbreak of World War I in 1914. The Silver Age marked Russia's coming of age as a contributing participant in Western culture. This happened, first of all, because of the high level of professionalization attained by Russian scholars, scientists, and artists. The process had been initiated in the field of humanities under Alexander I and was confined at first to the nobility. The reign of Nicholas I marked Russia's take-off in science and scholarship within the framework of the universities and the

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Academy of Sciences. In the 1860s prominent Russian scientists such as N. I. LOBACHEVSKY and D. I. MENDELEYEV received full recognition in the West.

After the reforms of Alexander II, the needs of the zemstvos, the new judicial system, and of the rapidly developing industrial system produced an exponential increase in the number of technicians and professionals in such areas as law, medicine, engineering, agronomy, and statistics. Professional associations aimed at playing an active role in shaping government and public policies in their fields for the benefit of society.

By the first decade of the 20th century Russia had moved to the forefront of scholarly and scientific progress; the contributions of Russian scientists in such areas as chemistry, aeronautics, linguistics, history, archaeology, and statistics were universally recognized.

Equally significant was the renaissance of religious life, and growing interest in the question of church involvement in social problems. Reformist laymen and clergy demanded greater independence for the church, calling for a national church council to address the needs and define the character of Russia's ecclesiastical institutions. Closely allied to the religious renaissance was the development of the personalist-existentialist school of Russian philosophy by N. A. BERDYAYEV, N. O. Lossky (1870-1965), L. Shestov (1866-1938), and others.

Last, but not least, the Silver Age witnessed an extraordinarily creative outburst in the arts. The composer Igor STRAVINSKY, ballet impresario Sergei DIAGHILEV, and the painter Wassily KANDINSKY each had a strong influence on the emergence of avant-garde modernism before and after World War I. In the same period, CONSTRUCTIVISM and SUPREMATISM were original Russian contributions to abstract art (see RUSSIAN ART AND ARCHITECTURE; RUSSIAN MUSIC).

Thus the years 1905-14 were a period of great complexity and ferment. To many this feverish intellectual creativity, which had its social and political counterpart in rural unrest, industrial discontent, revolutionary agitation, and nationalist excesses (for example, the pogroms against the Jews), proved that the imperial regime was nearing its inevitable end, which the outbreak of war only served to delay. On the other side,

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liberals and moderate progressives saw in these phenomena harbingers of Russia's decisive turn to political democracy and social and economic progress, which was abruptly stopped in 1914.

In any event Russia went to war in August 1914. Determined to prevent further Austro-Hungarian encroachment in the Balkans, the Russian government rallied to the support of Serbia when Austria-Hungary declared war on that Balkan nation. Russia's alliance with France and Britain (see TRIPLE ENTENTE) and Austria-Hungary's with Germany helped transform the local Balkan conflict into WORLD WAR I. The strains of that bloody and disastrous conflict produced a breakdown of both the political system and the social fabric in Russia. Food riots in Petrograd (formerly Saint Petersburg) and other cities toppled the monarchy in March (N.S.; February, O.S.) 1917.

The Russian Revolutions of 1917

Following the abdication of the emperor the Duma established a provisional government, headed first by Prince Georgy Lvov (1861-1925) and later by Aleksandr KERENSKY. The government's authority was challenged, however, by an increasingly radical Soviet (council) of Soldiers' and Workers' Deputies, and it could not stem the tide of disintegration. Eventually agrarian unrest, mass desertions at the front, turmoil in the cities, and disaffection of the non-Russian nationalities gave the Bolsheviks (see BOLSHEVIKS AND MENSHEVIKS) under Vladimir Ilich LENIN an opening to seize power in November (N.S.; October, O.S.) 1917. Thus the second of the two RUSSIAN REVOLUTIONS OF 1917 occurred, leading to the establishment of the UNION OF SOVIET SOCIALIST REPUBLICS.

Marc Raeff

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RULERS OF THE RUSSIAN EMPIRE

----- Rurik Dynasty -----

1462-1505	Ivan III
1505-33	Vasily III
1533-84	Ivan IV (Ivan the Terrible)
1584-98	Fyodor I

Time of Troubles -----

1598-1605	Boris Godunov
1605	Fyodor II
1605-06	False Dmitri
1606-10	Vasily Shuisky
1610-13	Interregnum

Romanov Dynasty -----

1613-45	Michael Romanov
---------	-----------------

1645-76 Alexis I
1676-82 Fyodor III
1682-89 Sophia (regent)
1682-96 Ivan V (co-tsar)
1682-1725 Peter I (Peter the Great)

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1725-27 Catherine I
1727-30 Peter II
1730-40 Anna
1740-41 Ivan VI
1741-62 Elizabeth
1762 Peter III
1762-96 Catherine II (Catherine the Great)
1796-1801 Paul I
1801-25 Alexander I
1825-55 Nicholas I
1855-81 Alexander II
1881-94 Alexander III
1894-1917 Nicholas II

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UKRAINE

{yoo-krayn'}

Ukraine was formerly one of the republics of the USSR. Along with the other Soviet republics, it became independent in 1991. Ukraine is bordered on the north by Belarus, on the north and east by Russia, on the south by the Sea of Azov and the Black Sea, on the southwest by Romania and Moldova, and on the west by Hungary, Slovakia, and Poland. One of the largest European countries, it ranks second in area (after Russia), and sixth in population. The capital of Ukraine is KIEV. For much of its history, the country has been subject to Russian and Polish influence.

LAND AND RESOURCES

Ukraine is mostly flat plains or gently rolling hills. Elevation generally rises from the southern Black Sea region northward, although the northernmost region of Polesie is a vast marshy lowland. The only mountain ranges are the CARPATHIANS in the extreme west and the Yayla Range in the southern CRIMEA. The major river, fed by numerous tributaries, is the DNEPR (Dnpr), which bisects the country in a broad arc before emptying into the Black Sea. Other important waterways include, in the west, the DNESTR (Dnistr) and the Southern Bug (Boh) rivers, which also drain into the Black Sea, and, in the east, the DONETS, which flows into the Sea of Azov.

Vegetation and Soil

Vegetation is divided among three zones from north to south: the forest (coniferous and deciduous) zone, the mixed forest-steppe zone, and the STEPPE. Forests cover less than

15% of the land. Almost half of Ukraine--the steppe and most of the forest-steppe zone--is covered with some of the world's most fertile chernozem soil, the basis for the country's rich agriculture. Human settlement has destroyed much of Ukraine's natural flora and fauna.

Climate

Most of Ukraine has a moderately continental climate, though it is alpine in the Carpathians and subtropical in parts of the Crimea. Average temperatures vary from -8 deg C (18 deg F) in the north and 4 deg C (39 deg F) in the south in January, to 18 deg C (64 deg F) in the north and 24 deg C (75 deg F) in the

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south in July. Annual precipitation also varies, from an average of 1500 mm (59 in) in the Carpathians to 300 mm (12 in) on the Black and Azov sea coasts; the south often suffers from drought.

Resources

Ukraine has large reserves of peat, natural gas, and coal but insufficient oil reserves to meet its energy needs. Iron ore and other mineral resources are most abundant in the DONETS BASIN (Donbas) and the Dnepr Basin, which are the nation's industrial heartlands.

PEOPLE

The two principal ethnic groups in Ukraine are Ukrainians and Russians. In 1989 ethnic Ukrainians formed 73% of the population, and ethnic Russians 22%. In the more rural western and central regions Ukrainians make up 90% or more; their percentage is substantially lower in the industrialized east and south (in the Donbas it is just over 50%), where a correspondingly higher proportion of Russians exist. Only since the 1970s have a majority of Ukrainians been city dwellers, whereas the Russians are 90% urban; many large cities are predominantly Russian-speaking. Use of the Ukrainian language, a East Slavic language closely related to Russian, is now being promoted in all spheres of life. In the Crimea, from which the native TATAR were deported in

1944, the population is two-thirds Russian and one-third Ukrainian. Since the late 1980s the Tatars have been returning in large numbers and pressing their demands for the reconstitution of a Crimean Tatar homeland.

Religion

Ukrainians have traditionally been Eastern Christians, divided since 1596 into an Orthodox majority and a minority of EASTERN RITE (Uniate) Catholics, who predominate in the west. Both the Ukrainian Autocephalous Orthodox church and the Ukrainian Catholic (Easter Rite) church were banned under Stalin, but have reemerged and grown in strength since 1989. Separate from these is the Ukrainian Orthodox church, which is subject to the Moscow patriarchate. Most Russian believers are Orthodox. Latin Rite Catholicism is limited to ethnic Poles and Hungarians. Protestant, Jews, and Muslim (mostly Crimean

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Tatar) communities also exist.

Culture

Ukrainian folk art and music are internationally famous. Centuries of foreign rule inhibited the development of a vernacular Ukrainian literature. Despite tsarist Russification policies, however, such a literature did begin to flourish in the 19th century, exemplified in the works of Taras SHEVCHENKO and others. Party controls and official Russification were also hindrances in the Soviet period, but the 1920s and 1960s were times of considerable cultural creativity. Since the late 1980s there has been a cultural revival, especially through the medium of the Ukrainian language.

Education and Health Care

Literacy has been nearly universal since the mid-20th century. All education through the university level is free and compulsory through the eighth grade. Medical care is free of charge, but medical services have deteriorated since the 1970s.
ECONOMIC ACTIVITY

Ukraine's common designation as the "breadbasket of Europe"

reflects the traditional importance of agriculture in the country's economy. Industrialization began in the late 19th century and continued under Soviet rule, mostly in the Donbas and the central Dnepr region. Central planning, directed by Moscow, led to sectional imbalances and reliance on supplies from other Soviet republics, which resulted in serious economic difficulties when independence came. The transition to a market economy, the declared goal of Ukraine's government, has been slow. Legislation on privatization was enacted in 1992; some progress toward that end was made in the service sector, but agriculture remained almost totally collectivized and factories continued to be run by state-appointed managers.

Over 40% of the labor force is employed in industry. Despite some progress in regional equalization, the east remains the most industrialized area, followed by the south; the western, and especially the central regions still lag in industrial development. Extractive industries (the mining of coal, iron ore, and other minerals) have long been important. Soviet economic policies in Ukraine favored heavy machine industry to the detriment of light industry and consumer goods. Much of

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Ukraine's pre-independence industry was devoted to the production of military equipment, and the retooling of plants for civilian production is a high priority in the present economy.

Ukraine's leading industrial centers include Kiev, KHARKOV (Kharkiv), and DONETSK (Donets) in the east; DNEPROPETROVSK (Dnipropetrovsk), ZAPOROZHYE (Zaporizhzhia), and KRIVOI ROG (Kryvyi Rih) in the central Dnepr basin; and the Black Sea ports of ODESSA, Kherson, and Nikolayev (Mykolaiv), which are important for the shipbuilding industry.

GOVERNMENT

Until 1990 political power was the monopoly of the Communist party, whose Ukrainian branch was strictly subordinated to the central party organs in Moscow. All institutions of government, in Kiev and on the local level, were controlled by the party and led by party officials.

In emulation of the Soviet Communist party and its leader

Mikhail GORBACHEV, the Ukrainian party surrendered its monopoly of power early in 1990. The first and partially contested elections in Ukraine were held in March of that year. In the newly elected 450-member Supreme Council (parliament), orthodox Communists held a slim but controlling majority of 53%; the Democratic Bloc (an alliance of opposition groups) accounted for 30%, and reform Communists for the remainder. Weakening Soviet central power permitted Ukraine to adopt a declaration of sovereignty in July 1990; independence was proclaimed, and the Communist party was banned in August 1991. Well over a dozen new political parties have emerged, including the Socialist party (with a membership consisting largely of former Communists), the liberal-democratic Ukrainian Republican party, the moderate new Ukraine party, and the environmentalist Green World party.

In the summer of 1991 parliament voted to create the post of president, and the first presidential election was held in December. Executive power is exercised by a council (cabinet) of ministers headed by the premier, who is appointed by the president subject to parliamentary approval. In 1993 the president was Leonid M. Kravchuk. Legislation in the spring of 1992 allowed the appointment of presidential representatives in the administrative regions (oblasts) to oversee the implementation of national legislation and executive orders.

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The first draft of a new constitution was released for national discussion in mid-1992.

The Crimea was recognized as an autonomous republic within Ukraine in 1991.

HISTORY

In the 1st millennium BC, Ukraine's Black Sea coast and the Crimean Peninsula became an outpost of Greek, and later Roman and Byzantine, civilization. The steppe hinterland, by contrast, was for centuries the domain of nomadic tribes arriving in succession from Central Asia. Beginning in the 6th century AD, East Slavic tribes settled the interior.

In the 9th century the first historic state on Ukrainian

territory rose around the city of Kiev. From its core in Ukraine, the Kievan state expanded rapidly toward the northwest into modern Belarus, and northeast into what is now Russia (see RUSSIA, HISTORY OF). The name Rus', by which the Kievan state came to be known, was at first applied to the environs of Kiev and later to the entire territory ruled by members of the Kievan dynasty. In 988, VLADIMIR I introduced Byzantine (Orthodox) Christianity as the official religion of the realm, and under his successors a new Christian culture developed.

In the 12th and 13th centuries Kievan Rus' was in decline as a result of shifting trade routes, nomadic incursions from the steppe, and separatist tendencies among its various principalities. The final blow to Kiev was the Mongol invasion of the mid-13th century. But already the focus of power had shifted to the Galician-Volhynian principality (in present western Ukraine), which became the main heir to the Kievan legacy.

In the 14th century GALICIA fell under the rule of Poland, and most of the rest of Ukraine came under the Grand Duchy of Lithuania. In 1569, when Lithuania formed a political union with Poland, virtually all Ukrainian lands were transferred to the direct jurisdiction of the Polish crown. The expansion of Polish magnate landownership, the Polonization of the local nobility, and the inroads of Roman Catholicism at the expense of Orthodoxy engendered social, religious, and national tensions in Ukraine. Religious strife increased when a majority of the Orthodox bishops in the Polish-Lithuanian Commonwealth accepted union with Rome in 1596. The strongest

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opponents of the new Uniate church were the COSSACKS, who had developed into a powerful military force on Ukraine's steppe frontier and staunchly resisted Polish attempts to bring them under control.

The rising tensions exploded in a vast Cossack insurrection under the leadership of Bohdan CHMIELNICKI (Khmelnysky) in 1648, which was joined by the peasantry in revolt against serfdom. Rebel activity was directed not only against the Poles but also the Jews, whom the peasants identified with the Polish regime. Initial success encouraged Chmielnicki to begin the formation of a Ukrainian Cossack state independent of

Poland. However, an agreement with Moscow in 1654 made him a vassal of the Russian tsar, and in 1667, Ukraine was partitioned between Muscovy and Poland. For a time Russian Ukraine enjoyed self-rule under its hetman (prince). After Hetman Ivan MAZEPA made a bid (1708-09) for independence in alliance with Sweden, however, Ukrainian autonomy was severely curtailed; it was finally abolished by Catherine II in the 1760s. In the late 18th century the Russian Empire absorbed the remainder of Ukraine in the partitions of Poland, except for Galicia, which was annexed by Austria. At the same time, Russia's conquest of the Crimea opened up the southern steppes and the Black sea coast to Ukrainian settlement.

In the 19th century a modern national movement developed in Ukraine. Russia's response was repression, denial of Ukrainian nationality, and a ban on the Ukrainian language (1863 and 1876). A freer atmosphere for Ukrainian self-expression existed in Austrian Galicia.

After the collapse of both the Russian Empire and Austria-Hungary at the end of World War I, the two Ukrainian regions were briefly reunited in an independent state. In 1921, however, Galicia and Volhynia were occupied by Poland, while smaller areas in the west (northern BUCOVINA and RUTHENIA) were annexed by Romania and Czechoslovakia, respectively. Eastern Ukraine, conquered by the Soviets, became the Ukrainian SSR. In the east Stalin's forced collectivization and an artificially induced famine in 1932-33 led to the loss of several million lives. World War II brought massive destruction and further loss of life as Ukraine became the main battlefield between the USSR and Nazi Germany. Postwar Soviet annexation of western Ukraine was resisted by guerilla forces until the early 1950s. The transfer of the

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Crimea from Russia to Ukraine in 1954 completed the present configuration of the country.

Under the Ukrainian Communist party leader Petro Shelest (1963-72) a modest national revival occurred but was cut short by Shelest's removal. Arrests of dissenters and cultural leaders followed. The long tenure of Volodymyr Shcherbytsky as party chief was marked by Russification, cultural sterility,

political stagnation, and the disaster of the CHERNOBYL nuclear plant accident in 1986.

Political changes proceeded rapidly after 1989, the year that saw the rise of mass organizations, most notably the Rukh (People's Movement of Ukraine), which pushed for greater autonomy in the last years of Soviet rule. Following the failure of the Moscow coup, independence was proclaimed on Aug. 14, 1991. This was confirmed by 90% of the voters in referendum held on Dec. 1, 1991. On the same day former Communist Leonid Kravchuk was elected to the presidency, defeating the Rukh candidate, V. M. Chornovil, with 62% of the vote to Chornovil's 23%.

After the demise of the USSR, Ukraine joined the other former Soviet republics in forming the COMMONWEALTH OF INDEPENDENT STATES. Disputes with Russia over possession of the Crimea and control of the former Soviet Black Sea fleet subsided after agreements between Kravchuk and Russian president Boris Yeltsin in June and August 1992.

Lubomyr Hajda

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OFFICIAL NAME. Republic of Ukraine

LAND. Area: 603,677 sq km (233,081 sq mi). Capital and largest city: Kiev (1991 est. pop., 2,635,000).

PEOPLE. Population (1992 est.): 51,940,426; density (1991):

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87.5 persons per sq km (226.5 per sq mi). Ethnic composition (1989): Ukrainians (72.7%); Russians (22.1%); Jews (1%); Belorussians (0.92%). Official languages: Ukrainian, Russian. Major religions: Eastern Orthodox, Ukrainian Catholic.

EDUCATION AND HEALTH. Institutions of higher learning (1990): 147, plus 738 technical colleges. Hospital beds (1989): 694,800. Physicians (1989): 226,200.

ECONOMY. Principal products: agriculture--wheat, barley, oats, rye, sugar beets, potatoes, feed corn, cattle, hogs, sheep, goats, poultry; manufacturing and industry--ferrous metallurgy, agricultural and other machinery, automobiles and trucks, chemicals, paper, sugar refining; mining--coal, natural gas, iron, manganese, petroleum. Currency: hryvna.

GOVERNMENT. Type: republic. Government leader (1992): Leonid M. Kravchuk. Legislature: Supreme Council. Administrative subdivisions: 24 provinces (oblasts) and one capital district; one autonomous republic.

COMMUNICATIONS. Railroads (1990): 22,730 km (14,124 mi) total. Roads (1990): 227,000 km (141,051 mi) total. Major ports: 3. Major airfields: 2.

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BELARUS

{byel-ah-roos'}

Belarus (Byelarus, Belorussia, White Russia) is a landlocked country in Eastern Europe, bordered in the north and east by Russia, in the south by Ukraine, in the west by Poland, and in the northwest by Lithuania and Latvia. MENSK (Minsk) is the capital. Until it achieved independence in 1991, Belarus was the Belorussian Soviet Socialist Republic, one of the republics of the USSR.

In medieval times the territories of modern Belarus successively formed part of the Kievan Rus' state and, from the late 13th century, the Grand Duchy of Lithuania. After the union of Lithuania and Poland in 1569, Polish political and cultural influences became dominant in the area. With the partitions of Poland-Lithuania in the late 18th century Belarus became part of the Russian Empire. An attempt to establish independent statehood after the Russian Revolutions of 1917 proved unsuccessful, and in 1919 Belarus became a Soviet republic under Communist party rule.

LAND AND RESOURCES

Most of Belarus is a flat plain, with little variation in relief. The elevation is generally higher in the north, and a chain of hills runs through the central portion of the country. Marshy lowlands cover the southern region of Polesye (PRIPET MARSHES) in the basin of the Pripyat River. The major rivers drain either westward into the Baltic Sea (the Western DVINA and NEMAN) or southward into the Black Sea (the DNEPR, with its main tributaries, the Berezina and the Pripyat). Numerous streams and lakes are a prominent feature of the landscape, and a network of canals links the navigable waterways. About one-third of the country is covered with forests, mostly coniferous and birch. There is a rich variety of wildlife, including such rare animals as the European bison in the primal forest reserve of Belaya Vezha (Bialowieza) that straddles the Belorussian-Polish border.

Belarus was long thought to be poor in minerals, its natural resources limited to peat, gravel, sands, and clays. Recent surveys, however, have uncovered major deposits of coal, shale, oil, and potassium salts. Limestone, dolomite, and other building materials are also present. The soils are generally poor, and much of the land has been contaminated by

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BELARUS

radioactivity from the CHERNOBYL nuclear power plant accident of 1986.

The climate is moderately continental. The temperature averages 21 deg F (-6 deg C) in January and 64 deg F (18 deg C) in July. Average annual precipitation is 550-700 mm (22-28 in).

PEOPLE

More than three-fourths of the population consists of ethnic Belorussians. As a branch of the East Slavs, mostly Eastern Orthodox in religion, the Belorussians are linguistically and culturally closely related to the Russians and Ukrainians. They have traditionally been an overwhelmingly rural people, and only since the 1980s have a majority of them resided in cities. The Russians, who form 13% of the population, are much more highly urbanized, and the Russian language has long predominated in the cities and governmental institutions. The official use of Belorussian has increased, however, since 1990, when it was declared the country's official language.

Education and Health Care

Near universal literacy was achieved in Belarus by the 1950s. Ten-year primary and secondary education is free and compulsory; higher education is free, and entrance is by competitive examination. In higher and specialized secondary education Russian predominates as the language of instruction.

The provision of medical services made dramatic advances in Belarus during the 20th century, and has been free since the early Soviet period. The quality of medical care has declined since the 1970s, however, reflected in rising infant mortality rates and a lowered life expectancy. The impact of the Chernobyl nuclear disaster on public health, though not easily measured, was undoubtedly severe.

Major cities, in addition to Minsk, are the administrative centers: BREST, Gomel (Homyel'), Grodno (Hrodna), Mogilev (Mihilyow), and Vitebsk (Vitsyebsk).

Culture

The Belorussians possess a rich folklore and a legacy of

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BELARUS

literature, art, and architecture from the Kievan and Lithuanian periods. The 18th and 19th centuries were a time of Polish and Russian cultural ascendancy. A Belorussian literary rebirth began at the turn of the 20th century, and native cultural life was vibrant in the 1920s. Beginning in the 1930s Soviet policy favored the Russian language and culture; only in the late 1980s did Belorussian cultural life experience a new revival.

ECONOMY

Until independence Belarus was fully integrated into the centrally planned Soviet economy, in which resource allocations, production targets, and monetary policy were determined in Moscow. The economic difficulties that beset the USSR in the 1980s were reflected in Belarus and intensified after independence. Movement toward a free market system has been slow, and largely limited to the service sector. Most industry continues to be under state management and agriculture remains collectivized.

Agriculture

Livestock (cattle, hogs, sheep, and goats) accounts for more than half the value of agricultural output in Belarus. The country's chief crops are fodder and potatoes, followed by cereal grains (mainly rye, barley, and oats) and sugar beets. Industrial crops such as flax and hemp are also important.

Industry

Traditionally an agricultural land, Belarus experienced industrialization only after World War II. The country long specialized in such light industries as food processing, woodworking, and textiles; newer industries include chemicals, oil refining, instrument making, and electronics. Important products include trucks, tractors, and agricultural machinery, as well as consumer goods such as sewing machines, pianos, and watches.

GOVERNMENT

Until it formally gave up its monopoly on power in early 1990 the Communist party was the sole political party in the Soviet Union. The Communist Party of Belarus was entirely

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subordinated to the central party organs in Moscow--the Central Committee and the ruling Politburo. The government of the Belorussian SSR in turn strictly implemented party policy directives. The first free and partly contested elections in Belarus were held in March 1990. The newly elected parliament though still dominated by Communist deputies, gradually asserted greater autonomy from Moscow, and in the wake of the failed Soviet coup of August 1991, declared Belarus's independence. The activities of the Communist party were then suspended, but the development of a multiparty system proceeded slowly, and former Communists maintained their leading positions in government.

According to the existing constitution, which dates to 1978, Belarus is a parliamentary republic. It has a unicameral parliament (Supreme Soviet) of 360 members. The parliament elects a presidium and chairman (president), who functions as head of state. In 1993 the president was Stanislav S. Shushkevich. Responsible to parliament is the council of ministers (cabinet), headed by a chairman (the prime minister). The council of ministers exercises the executive and administrative powers of government. The parliament also appoints the country's supreme court.

HISTORY

After centuries of Polish-Lithuanian rule, western Belarus was annexed by Russia in 1793, and eastern Belarus in 1795; together they were known as the Northwestern Provinces. Ties with Poland remained strong in the 19th century. The Polish anti-Russian uprisings of 1830 and 1863 attracted some support in Belarus, especially among the gentry. An independent Belarus was proclaimed after the collapse of the Russian Empire, while Belarus was under German-Austrian occupation (March 1918), but Polish forces moved into western Belarus the following December. In the POLISH-SOVIET WAR of 1920, Poland tried unsuccessfully to create a Polish-Belorussian federation, but the Treaty of Riga (1921) partitioned Belarus between Poland and the Soviet Union. The Polish half was retaken by

the USSR in 1939 and became part of the Belorussian SSR. An independence movement reemerged with the formation of the Belorussian Popular Front in 1988, and unrest among Belorussian workers contributed to the economic crisis that hastened the end of the USSR in 1991. The parliament of Belarus voted in early February 1993 to ratify the first Strategic Arms Reduction Treaty (START I) and to approve adherence to the

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BELARUS

Nuclear Nonproliferation Treaty.

Lubomyr Hajda

Bibliography: Kipel, Viaut and Zora, eds., Byelorussian Statehood: Reader and Bibliography (1988); Lubachko, Ivan, Belorussia under Soviet Rule (1972); Vakar, Nicholas, Belorussia: The Making of a Nation (1956).

OFFICIAL NAME. Belarus

LAND. Area: 207,600 sq km (80,134 sq mi). Capital and largest city: Minsk (Minsk)--1991 est. pop., 1,633,600.

PEOPLE. Population (1992 est.): 10,373,881; density: 50.0 persons per sq km (129.7 per sq mi). Ethnic composition (1989): Belorussians (77.9%); Russians (13.2%); Poles (4.1%); Ukrainians (2.9%); Jews (1.1%). Annual growth: (1992): 0.5%.

EDUCATION AND HEALTH. Institutions of higher learning: 33, plus 138 technical colleges. Hospital beds (1989): 138,300. Physicians (1989): 41,400. Life expectancy (1992): women--76; men--66. Infant mortality (1992): 20 per 1000 live births.

ECONOMY. Principal products: agriculture--livestock, dairy products, flax, hemp, tobacco, potatoes, grain; manufacturing and industry--wood products, paper, textiles, food products, chemicals, motor vehicles, electronic equipment, leather products, machine tools. mining and extraction--crude oil, natural gas, peat. Foreign trade (1990): imports--\$5.6 billion; exports--\$4.3 billion. Currency: ruble.

GOVERNMENT. Type: republic. Government leader (1993):

Stanislav S. Shushkevich--president. Legislature: Supreme Soviet. Administrative subdivisions: 6 regions (oblasts). COMMUNICATIONS. Railroads (1990): 5,590 km (3,484 mi) total. Roads (1990): 92,200 km (57,469 mi) total.

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JUDAISM

{joo'-day-izm}

Judaism, the religion of the JEWS, claims over 14 million adherents throughout the world. It is the oldest living religion in the Western world. Historically, Judaism served as the matrix for Christianity and Islam, the other two great monotheistic religions, which together with Judaism claim half the world's population as adherents.

BELIEFS

Judaism was the first religion to teach MONOTHEISM, or belief in one God. This belief is the basis of Judaism and is summed up in the opening words of the Shema, recited daily: "Hear O Israel, the Lord our God, the Lord is One" (Deut. 6:4). Jews believe that God's providence extends to all people but that God entered into a special COVENANT with the ancient Israelites. They do not believe that they were chosen for any special privileges but rather to bring God's message to humanity by their example. Belief in a coming MESSIAH has been a source of optimism for Jews.

The beliefs of Judaism have never been formulated in an official creed; Judaism stresses conduct rather than doctrinal correctness. Its adherents have a considerable measure of latitude in matters of belief, especially concerning the messianic future and immortality. Judaism is a this-world religion; its objective is a just and peaceful world order on earth. This hope is assured by the belief that God is the Lord of history as well as of nature.

The basic source of Jewish belief is the Hebrew BIBLE (called the "Old Testament" by Christians), especially its first five books, called the TORAH or the Pentateuch. The Torah was traditionally regarded as the primary revelation of God and his law to humanity; it is considered as valid for all time. Its laws were clarified and elaborated in the oral Torah, or the tradition of the elders, and were eventually written down in the MISHNAH and TALMUD. Thus, Judaism did not stop developing after the Bible was completed. The traditional Jewish prayer book is an important result of this process of development, reflecting the basic beliefs of Judaism as well as changes in emphasis in response to changing conditions. During the Middle Ages, systematic codes of talmudic law were compiled. Jewish literature--legal, ethical, philosophic, mystical, and

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devotional--is virtually endless.

PRACTICES

Judaism has a system of law, known as HALACHAH, regulating civil and criminal justice, family relationships, personal ethics and manners, social responsibilities--such as help to the needy, education, and community institutions--as well as worship and other religious observances. Some laws once deemed very important, for example, laws governing the offering of sacrifice and most rules of ceremonial defilement and purification, have not been practiced since the destruction of the Second Temple in Jerusalem in AD 70.

Individual practices still widely observed include the dietary laws (see KOSHER); rules concerning the marital relationship, daily prayer, and study; and the recital of many blessings, especially before and after meals. The SABBATH and festivals are observed both in the home and in the SYNAGOGUE, a unique institution for prayer and instruction that became the model for the church in Christianity and for the mosque in Islam. Traditionally observant Jews wear tefillin, or PHYLACTERIES, on their forehead and left arm during morning prayers, and affix to their doorposts a mezuzah, a little box containing a parchment scroll inscribed with passages of the Torah that emphasize the unity of God, his providence, and the resulting

duty of serving him. In accordance with biblical law, men wear a fringed shawl (tallith) during prayer. Covering the head is a widespread custom.

The Jewish religious calendar, of Babylonian origin, consists of 12 lunar months, amounting to about 354 days. Six times in a 19-year cycle a 13th month is added to adjust the calendar to the solar year. The day is reckoned from sunset to sunset.

The Sabbath, from sunset Friday to sunset Saturday, is observed by refraining from work and by attending a synagogue service. Friday evening is marked in the home by the lighting of a lamp or candles by the woman of the household, the recital of the kiddush (a ceremonial blessing affirming the sanctity of the day) over a cup of wine, and the blessing of children by parents. The end of the Sabbath is marked by parallel ceremonies called havdalah. Similar home ceremonies occur on the festivals.

The holidays prescribed in the Torah are the two "days of awe,"

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ROSH HASHANAH (New Year) and YOM KIPPUR (Day of Atonement), and three joyous festivals, PASSOVER, SHAVUOTH (Feast of Weeks), and the Feast of TABERNACLES. Later additions are the festive occasions of CHANUKAH and PURIM, and the fast of the Ninth of Av (Tishah be-Av), commemorating the destruction of the Temple. On the 8th day after birth, male children are circumcised as a sign of the covenant with Abraham; the boy is named during the ceremony (see CIRCUMCISION). Girls are named at a synagogue service. At the age of 13, a boy is deemed responsible for performing the commandments (BAR MITZVAH). To mark his new status, the bar mitzvah takes part in the Bible readings during a synagogue service. (The synagogue service is sometimes popularly referred to as the bar mitzvah.) A similar ceremony for girls (bat mitzvah) is a recent innovation. Somewhat older is the confirmation ceremony for both sexes introduced by Reform Judaism; it is usually a class observance on or near Shavuoth.

Judaism has characteristic, but not unparalleled, customs concerning marriage and death and mourning. The importance attached to recital of the KADDISH prayer by mourners dates from the Middle Ages. The prayer itself is much older and was

originally recited as the conclusion of a sermon; it is related in thought and language to the "Lord's Prayer" of Christians. After the disasters during the First Crusade, the Jews of central and later eastern Europe introduced a memorial service on Yom Kippur and on other holidays; they also began to observe the anniversary of the death of parents.

HISTORY

In the biblical account, the patriarchs ABRAHAM, ISAAC, and JACOB received the revelation of the one, true God, who promised special protection to the Israelite tribes (of whom there were 12, descended from the 12 sons of Jacob, who was also called Israel).

Origins

Many 19th-century scholars held that monotheism gradually emerged out of POLYTHEISM, the evolution being complete only with the great prophets in the 8th century BC and later. Today many are convinced that monotheism was already a reality in the days of MOSES (13th century BC) and that later prophets developed more fully only the ethical and spiritual

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implications of the belief. All the Israelite tribes agreed on the worship of one God named Yahweh (see GOD); they shared the memory of slavery in Egypt, the deliverance under Moses, and the Mosaic covenant and revelation at Sinai. Although some practices were borrowed from surrounding peoples (agricultural festivals, civil jurisprudence), the Israelite religion was kept pure of paganism through the strenuous efforts of the prophets. Unparalleled in any other Near Eastern religion are Judaism's prohibition of images, observance of the Sabbath, dietary laws, legislation guaranteeing support of the poor as a matter of right, and protection of slaves and animals against cruelty. When a loose tribal confederation was replaced by a national state under Kings SAUL and DAVID a national Temple in Jerusalem helped unify the people spiritually. After the division of the kingdom following the death (c.933) of SOLOMON, the northern kingdom of Israel also had national shrines (see ISRAEL, KINGDOM OF; JUDAH, KINGDOM OF).

Prophets

The PROPHETS exercised decisive influence on all development in Israel. From the time of the 11th-century-BC prophet Samuel, they ceased to be mere soothsayers and became more and more national leaders, speaking in the name of God (the Hebrew word for prophet is navi, meaning "spokesman"). They upheld strict principles of justice and humanity, criticizing bluntly the most powerful forces in the nation. They warned of national disaster unless a radical improvement of religious and moral standards was realized. The reform movement led by King JOSIAH (c.640-609 BC), based on the Book of DEUTERONOMY, was probably undertaken under prophetic influence; the reforms included abolishing all local shrines and sanctuaries and limiting sacrifice to the Temple in Jerusalem. This dramatized belief in one God and reduced the importance of sacrifice in the daily life of the worshiper. The gap left by the abolition of the local shrines was eventually filled by the establishment of the SYNAGOGUE, but there is no clear reference to this new institution until some four centuries later. The most mature and eloquent expression of prophetic ideals is found in the recorded speeches of the later prophets, beginning in the 8th century BC with the prophet Amos.

The Exile and Foreign Influences

The fall of both kingdoms and the BABYLONIAN CAPTIVITY (586-538

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BC) were perceived as a confirmation of the prophetic predictions and therefore of the truth of their message. Thus the Israelites were prepared to listen to the prophets of hope who now appeared, promising not only national restoration but also the ultimate redemption of all peoples from idolatry, injustice, and war.

Returning exiles were leaders in the revival of the Palestinian center (now confined to the area of the former southern kingdom of Judah) and the building of the Second Temple. The high priests usually served as official representatives to the Persian government and to the succeeding empires. In the middle of the 5th century BC, the final form was given to the Torah--in the opinion of many scholars, a composite of laws,

narratives, and poems dating from different periods, but with beginnings going back to Moses; and the people formally accepted the Torah as the rule for their life. Shortly thereafter the SAMARITANS broke away from the main body of Judaism; small numbers of this sect still survive.

During this period, prophecy waned and finally disappeared, but the writings of the great prophets were compiled and accepted as sacred literature. Other books were composed--notably, wisdom literature, such as JOB--and many of them were eventually included in the Bible.

Some elements of Persian religion were incorporated into Judaism: a more elaborate doctrine of ANGELS; the figure of SATAN; and a system of beliefs concerning the end of time, including a predetermined scheme of world history, a final judgment (see JUDGMENT, LAST), and the RESURRECTION of the dead. These ideas were expounded in many visionary documents called apocalypses; none of them was included in the Hebrew Bible except the Book of DANIEL (see APOCALYPSE THEME; APOCALYPTIC LITERATURE; ESCHATOLOGY).

Hellenism and Judaism

Following the conquests of Alexander the Great (d. 323 BC), Judea (as Judah came to be called) passed under the rule of Alexander's Egyptian successors (the Ptolemies) and later his Syrian successors (the Seleucids). Under these Hellenistic rulers, Jewish life was changed both inwardly and outwardly, in Palestine and in the growing DIASPORA. In Alexandria, which acquired a large Jewish population, novel forms of Judaism emerged. The Bible was translated into Greek (the SEPTUAGINT),

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the first of innumerable translations. New explanations of the Torah were devised in the 1st century AD by PHILO OF ALEXANDRIA.

The Greek language and customs also affected Palestinian Jewry; the Jewish emphasis on study may be in part the result of Greek influence. But while many Jews were attracted to pagan customs and attitudes, the majority resisted these trends. The attempt of the Seleucid king ANTIOCHUS IV to impose the Greek religion by force aroused open rebellion led by the MACCABEES, a Jewish

priestly family. During the short period of Judean independence under the Maccabees (also called Hasmoneans) a movement of proselytizing began that was apparently not organized but was nevertheless energetic. Large numbers of persons, disillusioned with the old pagan cults, adopted Judaism formally or attached themselves unofficially to the synagogue.

The Sects

The worldliness of the later Maccabees alienated most of their subjects, and effective leadership passed more and more to pious and learned laymen, especially after the Romans established control in 63 BC. These laymen formed the party of the PHARISEES (separatists); democratic in spirit, the Pharisees sought to adapt the laws of the Torah to changing needs, utilizing old popular traditions (oral Torah), which they expanded by the free method of MIDRASH, or verse-by-verse interpretation of scripture. Their opponents, the SADDUCEES, were drawn largely from the wealthy classes and from the priesthood; conservative in religious matters, the Sadducees interpreted scripture strictly, disregarding the oral tradition and popular customs, and rejecting the doctrine of resurrection. The Pharisees were followed by the majority; all subsequent Judaism was pharisaic, and the roots of Christianity and Islam are found in pharisaic Judaism. (The ESSENES were a sort of right-wing, monastic splinter group of the Pharisees; they probably wrote the DEAD SEA SCROLLS.)

Talmudic or Rabbinic Judaism

After the disastrous revolt against Rome in AD 66-70, the pharisaic leaders, whose successors bore the title RABBI, rallied the people around the synagogue and the academies of learning. Through centuries of effort (recorded in the

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Mishnah, Talmud, and many works of midrash) they produced a disciplined and loyal Jewish community.

The earliest Christians differed from other Jews chiefly in their belief that Jesus was the messiah. But under the leadership of Saint Paul and others, gentile Christianity soon

became dominant, and the break between the two religions became complete. When the Roman Empire became officially Christian in the 4th century AD, the Jews became subject to many discriminatory laws, including a prohibition against seeking or even accepting converts.

In the 4th century, religious and legal leadership was assumed more and more by the Babylonian center of learning; and from the 5th century, the Babylonian Talmud was generally accepted as the authoritative source of law. Thereafter world leadership remained with the Babylonian scholars; the heads of the academies, called Gaonim ("excellencies"), provided information and advice on legal and other questions to the Diaspora communities. In the 8th century, the sect of KARAITES broke away, rejecting tradition and rabbinic authority, and seeking to live by the letter of the biblical law. After four centuries of vigorous activity, the sect declined; today only remnants survive.

Philosophy and Mysticism

By AD 1000, the Babylonian center was in decline, but new centers of Jewish culture emerged in North Africa and in Muslim Spain. (The Spanish Jews, together with the oriental communities, came to be known as SEPHARDIM, and those of Christian Europe as ASHKENAZIM. The two groups differ somewhat in liturgical forms, in the pronunciation of Hebrew, in their music, and in many customs.) Under tolerant rulers, Jews participated actively in the Arabic cultural renaissance. In addition to commentaries on the Bible and Talmud, they also wrote extensively on grammar, science, and philosophy, usually in Arabic, and produced outstanding poetry in Hebrew, both religious and secular.

Although the first important Jewish philosopher was the Gaon SAADIA in Baghdad (10th century), nearly all of his important successors were of Spanish origin, including the preeminent MAIMONIDES. These philosophers were scholastics, like their Muslim and Christian contemporaries, drawing largely on the works of Aristotle and the Neoplatonists. Like Philo, they

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tended to explain difficult Bible passages as allegories. Their writings were welcomed by intellectuals trying to

harmonize revealed religion with the new scientific learning. But the masses were not interested in them, and many of the orthodox leaders regarded the new doctrines as subversive. After the death of Maimonides, his admirers and detractors waged a bitter struggle in Christian Spain and the Provence. His last important successor, Chisdai Crescas (d. 1410), undertook a critique of Aristotle in the interest of simple faith.

More lasting and widespread was the influence of KABBALAH ("tradition"), a term that includes various mystical doctrines and practices. Mystical elements appear in the old apocalypses and in talmudic and gaonic literature. There were mystical movements in Europe as well, culminating in the 13th and 14th centuries in southern France and northern Spain. A wealth of kabbalistic writings was produced, including the Zohar ("splendor") of Moses de Leon (13th century).

There are many kabbalistic systems. In addition to true mystical experience, they contain mythological and magical elements, reinterpretations of biblical and talmudic passages and of prayers and commandments, Neoplatonic ideas, and messianic speculations. The tragedies that befell the Jews of Spain, culminating in the expulsion of 1492, called for stronger comfort than rational philosophies could offer. This was in some measure provided by Kabbalah, with its enthralling mysteries and increasing emphasis on messianism. The Jews of central and eastern Europe also cultivated Kabbalah. These communities were unsurpassed in talmudic learning; French scholars contributed much to biblical studies also. They introduced a number of legal changes to improve the status of women including a formal ban on polygamy.

The 17th century saw a revival of Jewish life in Palestine. An attempt to revitalize the legal system by creating a new SANHEDRIN, or central court, was unsuccessful. But a 17th-century mystical revival had a profound effect on Jewish thought and liturgy. The messianic speculations of this new Kabbalah, taught by Isaac LURIA, and the massacres of Polish Jewry in 1648 formed an explosive combination; in 1665 a Turkish Jew, SABBATAI ZEVI, proclaimed himself the messiah. There had been many such messianic claimants over the centuries, but they never achieved more than a local following;

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Sabbatai's announcement, however, shook world Jewry. Thousands of believers left their homes to join him in Palestine. When Sabbatai broke under threats and accepted Islam, there was widespread disillusionment and despair. Yet a substantial number of believers kept up an underground Sabbatean movement for over a century, finding kabbalistic justifications for their leader's apostasy and awaiting his triumphant return.

A more positive mystical movement arose in eastern Europe in the 18th century. It was founded by BAAL SHEM TOV and was known as HASIDISM. Its leaders were versed in the mysteries of Kabbalah, but they addressed themselves to the unlearned masses, teaching them a simple and joyous faith and encouraging them to express their religious feelings in ecstatic song and dance. Initially opposed by the rabbinic leaders as heretical, Hasidism survived such attacks and is today regarded as representative of extreme Orthodoxy. The movement declined for a time because it fostered "the cult of personality" and encouraged superstition, but it seems to have regained vitality in some American cities and in Israel.

Modern Developments

Except for these mystic stirrings, Jewish life from the 16th to the 19th centuries--the GHETTO period--was rather torpid. But gradually modern scientific and philosophic ideas penetrated the ghetto. These influences began to be felt in the West during the 17th century. The Enlightenment of the 18th century witnessed discussion of improving the situation of Jews and led to their emancipation under the impact of the American and French revolutions. Though progress in Germanic lands was slow and disappointing, and in eastern Europe and in the Muslim lands virtually nonexistent, the impact of new ideas was felt everywhere among Jews. The Jewish community no longer provided its members with political status. Wherever Jews received citizenship, the old Jewish community lost its authority; in the New World it had never existed, and in Russia it was dissolved by government order in 1844. No longer subject to community discipline, confused by new social and intellectual conditions, Jews were uncertain of their place in the modern world.

One response was Haskalah, the Hebrew word for "Enlightenment," which sought to bring modern knowledge and ideas to large numbers of Jews, using chiefly writings in modern Hebrew.

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Moses MENDELSSOHN made the pioneer effort in 18th-century Berlin. His program--to combine modern education with strict Orthodox practice--was ineffective; his efforts led rather to assimilation, even to Christian baptism for worldly advancement. In Austrian Poland (Galicia), Haskalah was more fruitful, resulting in new efforts to study Jewish history and literature by modern critical methods ("the science of Judaism"), a trend continued with great success in Germany. In Russia, the attempt at popular education, with the slogan "Be a Jew at home and a man elsewhere," was soon recognized as futile because of the government's viciously anti-Jewish policies. In its place, a movement for Jewish nationalism arose--first expressed in secular literature in Hebrew--decades before the rise of political ZIONISM. Later a strong socialist movement developed in urban centers, and these Jewish socialists spoke in Yiddish, the folk language, rather than in Hebrew.

In the West, Enlightenment led to attempts at religious reconstruction, partly as a response to spreading indifference and apostasy that ghettoized Orthodoxy could not check. The first reforms were external, to provide a more decorous and attractive synagogue service, with portions of the service read in the language of the country, organ and choral music, and the revival of preaching. These changes aroused Orthodox opposition and sometimes government intervention. The Reformers had recourse to the newly developing "science of Judaism," showing that Judaism had always grown and changed. Eventually they developed a modernist theology, rejecting the literalist understanding of Scripture and the changeless authority of the halachah. They upheld a doctrine of progressive revelation, equating the revelation of God with the education of the Jewish people and of all humanity. They rejected the traditional prayers that asked for a return to the land of Israel and the restoration of sacrifices. Instead of a personal messiah, they envisioned a messianic age of brotherhood and peace; and instead of bodily resurrection, they taught a purely spiritual immortality. They discarded many traditional observances as no longer meaningful, modified others, and introduced new ones, such as confirmation. They also affirmed the equality of women in religious matters. A second group of modernists held similar theoretical views, but retained traditional practice with only limited modifications; they became the spiritual fathers of Conservative Judaism in the United States.

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All parties, including the Orthodox Jews in western countries, were fervid in patriotism toward their several lands. All were deeply affected by 19th-century liberalism--optimistic, universalistic, and convinced of the reality of progress. The modernist movements, starting in Germany, had only modest success in Europe, but expanded greatly in North America. They have since acquired followers in Latin America, South Africa, Australia, and Israel. The terms Reform, Liberal, Progressive, Conservative, and Reconstructionist are used in various countries with varying shades of meaning; all designate nonorthodox versions of Jewish religion.

New forms of Jewish community and synagogue organization, mostly on a voluntary basis, emerged in the 19th century. The old rabbinic academies (Yeshivoth) confined instruction to the Talmud and its commentaries. At this time modern rabbinical seminaries were established whose students were exposed to the whole range of Jewish history and lore and were required to obtain a university degree as well. Important works were written on Jewish theology, displaying Kantian and post-Kantian influences. Completely new were trends toward a secularist understanding of Jewish life, more or less completely rejecting religion and finding a substitute in nationalistic and cultural activities.

The prevailing liberal, optimistic mood gradually cooled as official oppression and widespread hatred continued in eastern Europe while ANTI-SEMITISM also flourished in the West. Jewish thinkers exhibited an increasing sense of the tragic element in human life, in the style of existentialism. The trend toward Jewish nationalism took concrete form in the movement of Zionism. Initially opposed by many religious leaders of all parties and by the Jewish socialists, Zionism was vindicated by the march of events, culminating in the HOLOCAUST. World Jewry, despite many divisions and disagreements, is today united in concern and support for the State of Israel, which was established in 1948.

At present, because of political circumstances, rigid Orthodoxy is the only form of Judaism officially recognized in Israel,

for example, in solemnizing marriages and in military chaplaincy. But a large part of the population is remote from formal religion, and the modernist versions have difficulty making their message heard.

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JUDAISM

A great exodus of Jews from the Soviet Union began in the 1970s and reached new heights in the early '90s. In the West, despite loss of members, mixed marriages, and a serious drop in the Jewish birthrate, religious institutions are flourishing. The number of synagogues and synagogue members increased dramatically after World War II. There has been a remarkable resurgence of Orthodoxy after a long period of decline, and modernist groups are placing greater emphasis on tradition and ceremony.

Bernard J. Bamberger

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search. These come from what is called CRISP (current research in progress! As they say)

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TITLE EFFECTS OF ^[[7mPATIENT^[[m ^[[7mEDUCATION^[[m AND PSYCHOSOCIAL SUPPORT

ABSTRACT:

This continuation grant is being sought to support the third phase of a project in which meta-analysis (a quantitative form of research review) will be used to summarize and analyze the effects of ^[[7mpatient^[[m ^[[7meduca tion^[[m and psychosocial support provided to adults with selected health problems. The long-term objective of this project is to increase the accessibility and usefulness of past research, on the effects of ^[[7mpatient^[[m ^[[7meducati on^[[m and psychosocial support, to clinicians, researchers, and theoreticians. The target client group in Phase I was adult surgical ^[[7mpatient^[[ms and in Phase 2 it was adults with cardiovascular health problems. In Phase 3, the target client group will be adults with other chronic health problems. The specific aims of Phase 3 are to determine: (a) the effects of ^[[7mpatient^[[m ^[[7meducation^[[m and psychosocial support on physiologic and psychologic well-being, adherence to therapeutic regimes, and knowledge about their condition among adults with selected chronic health problems; (b) the plausibility of selected threats to internal or construct validity of the review; (c) the extent to which effects are generalizable; (d) whether some types of ^[[7mpatient^[[m ^[[7meducation^[[m and psychosocial s upport are more effective than others in increasing well-being, adherence, or knowledge about their condition among adults with selected chronic health problems; and (e) the extent to which results obtained from all three phases of this project are consistent across client groups--adults surgical ^[[7mpatient^[[ms, adults with cardiovascular health problems, adults with other chronic health problems. A size-of-effect, meta-analysis of existing experimental and quasi-experimental studies on this topic will be done. It is expected that over 200 studies will be used to address Aims A through D and that over 561 studies will be used to address Aim E.

R01CA54345 WILLIAMS, ROBERT B ^[[7mPATIENT^[[m-INITIATED COMPUTER S
YSTEM FOR

-PROJECT NUMBER.....5 R01 CA54345-04

FY 94

WILLIAMS, ROBERT B

IRG/INTRAMURAL UNIT..SRC

MEDICAL COLLEGE OF VIRGINIA

AWARD AMOUNT..... \$321,408

PO BOX 251, MCV STATION

RICHMOND, VA 23298-0251

PERFORMING ORGANIZATION: VIRGINIA COMMONWEALTH UNIVERSITY

TITLE ^[[7mPATIENT^[[m-INITIATED COMPUTER SYSTEM FOR PRIMARY CARE

ABSTRACT:

This prospective randomized controlled study will focus on the diffusion of innovation of cancer preventive services in the primary physician's practice. The intermediary organization will be the Medical College of Virginia ^[[7mEducation^[[m Sciences Center led by the Department of Family Prac tice in collaboration with the Office of Continuing ^[[7mEducation^[[m and the Massey Cancer Center. This organization has a unique history of connectedness with regional primary physicians and will collaborate with the Virginia Primary Care Association, Inc., a consortium of community health center practices, and the Virginia Insurance Reciprocal, a physician medical malpractice insurance company. Project goals include: 1. To demonstrate improved ^[[7mpatient^[[m cancer prevention for cancer of the breast, cervix, oral cavity, and colon and rectum with supporting ^[[7meducation^[[mal services as compared to control practices. 2. To diffuse the HealthTouch ^[[7mpatient^[[m-initiated computer system with supporting ^[[7meducation^[[mal services in all primary physician practices with in the geographic sphere of influence of the Medical College of Virginia Health Sciences Center. 3. To integrate the HealthTouch system into the care of all practice ^[[7mpatient^[[ms age 18 and over. 4. To integrate the HealthTouch system into the ^[[7mpatient^[[m care activities of receptionists, nurse, physician extenders, physicians and other members of the office health care team. 5. To maintain utilization of HealthTouch system as an integral part of the ^[[7mpatient^[[m care activities in the practice after the intervention period. 6. To initiate the placement of the HealthTouch system into as many primary physician practices as possible with the state of Virginia. 7. To introduce the HealthTouch system into primary physician practices in contiguous and other states by the MCV office of Continuing ^[[7mEducation^[[m i n Medicine, Department of Family Practice, and Massey Cancer Center. The study population will include non-academic fee-for-service primary physicians and community health center practices within the geographical sphere of influence of the organization. This area has demonstrated increased cancer mortality time trends as compared to the United States at large. The innovation will be the integration of the HealthTouch system with supporting ^[[7meducation^[[mal services into the existing core ^[[7mpatient^[[m care activities in the primary physician practice. The method of diffusion will include demonstrations, regular site visits, and continuing communication with the MCV primary care academic faculty and trained liaison nurses. Evaluation will include focused interviews with physician decision makers and staff, quantitative utilization studies, chart audit, lab log audit, and ^[[7mpatient^[[m telephone survey.

U01CA63426 O'DONNELL, LYDIA N DES ^[[7mEDUCATION^[[m FOR HEALTH PRO
FESSIONAL
-PROJECT NUMBER.....1 U01 CA63426-01

FY 93

IRG/INTRAMURAL UNIT..SRC
R INC

AWARD AMOUNT..... \$382,917

O'DONNELL, LYDIA N
^[[7mEDUCATION^[[m DEVELOPMENT CT
55 CHAPEL STREET
NEWTON, MA 02160

PERFORMING ORGANIZATION: ^[[7mEDUCATION^[m DEVELOPMENT CENTER, INC.
TITLE DES ^[[7mEDUCATION^[m FOR HEALTH PROFESSIONALS AND THE PUBLIC

ABSTRACT:

^[[7mEducation^[m Development Center, Inc. (EDC), in collaboration with Dana-Farber Cancer Institute, Harvard Community Health Plan (HCHP), and the Dartmouth School of Medicine, proposes a study of the effectiveness of a multilevel communication campaign to improve identification, treatment, and support for women and men who are at risk of the health consequences associated with exposure to diethylstilbestrol (DES). We will compare the impact of low-intensity and high-intensity interventions in ensuring DES services for all potentially exposed individuals in Massachusetts, which has one of the highest prevalence of DES exposure in the nation. Over 36 months, we will: 1. Design and implement a low-intensity public ^[[7meducation^[m intervention to increase knowledge about the DES risk factors and the health consequences of DES exposure to identify individuals currently unaware of their exposure, increasing DES screening, and increasing referral of those with identified DES-related health problems to treatment and support services. 2. Design and implement a low-intensity provider ^[[7meducation^[m interventio n to increase DES-related knowledge and compliance with NCI-recommended screening and treatment protocols among physicians, nurses, and ancillary medical personnel. 3. Design video- and audiotape-based CME/CEU programs which are tailored to meet the informational needs and practice demands of physicians and nurses who should provide DES-related screening, treatment, and support services. 4. Conduct a randomized clinical trial in 14 HCHP sites comparing two levels of DES public and provider ^[[7meducation^[m: (a) low-intensity public a nd provider ^[[7meducation^[m interventions and (b) high-intensity combined CME/CE U, office management, and ^[[7mpatient^[m ^[[7meducation^[m interventions. 5. Assess the effectiveness of low-intensity and high-intensity interventions in terms of impact on improved public, provider, and ^[[7mpatient^[m knowledge about the health risks and consequences of DES; increases in the proportion of women and men in target groups who have been screened for DES; increases in the number of DES-exposed individuals identified in the medical record; and increased adherence to NCI- recommended DES screening, follow-up, and treatment procedures. 6. Disseminate CME/CEU programs to providers in office, group, and hospital practices throughout our region and continue public ^[[7meducation^[m outreach. Working with DES Action, the DES Cancer Network, and the DES Sons, as well as the massachusetts Medical Society, nursing associations, and local chapters of specialty practice groups, we will design and evaluate ^[[7meducation^[mal interventions that reach the public, providers, and ^[[7mpa tient^[ms.

R01NS23747 ROMANO, JOAN M
BEHAVIORA
-PROJECT NUMBER.....5 R01 NS23747-05

CHRONIC PAIN ^[[7mPATIENT^[m-SPOUSE

IRG/INTRAMURAL UNIT..BEM
AWARD AMOUNT..... \$261,775

FY 94 ROMANO, JOAN M
UNIVERSITY OF WASHINGTON

SEATTLE, WA 98195

PERFORMING ORGANIZATION: UNIVERSITY OF WASHINGTON

TITLE CHRONIC PAIN ^[[7mpatient^[[m-SPOUSE BEHAVIORAL INTERACTIONS

ABSTRACT:

Chronic pain represents a major U.S. health care problem, resulting in significant ^[[7mpatient^[[m and family suffering as well as costs estimated at \$79 billion annually. The refractory nature of chronic pain problems has led to the examination of psychological, behavioral, and environmental factors that could be important influences on ^[[7mpatient^[[m disability. Operant theory, supported by data from self-report studies, suggests that spouse responses to ^[[7mpatient^[[m pain behaviors may contribute to the maintenance of pain behaviors and disability. However, no studies other than the previously funded research by these investigators have examined this proposition using direct observation and sequential data analytic methods. The broad, longterm objectives of the proposed research are to examine how ^[[7mpatient^[[m-spouse interactions are related to ^[[7mpatient^[[m functioning over time, and whether long-term changes in ^[[7mpatient^[[m functioning can be predicted by pre- or posttreatment ^[[7mpatient^[[m-spouse interactions. Specifically, this study will examine the extent to which observed ^[[7mpatient^[[m-spouse behavioral interactions are associated with ^[[7mpatient^[[m disability pre- and postmultidisciplinary pain treatment and at 6-month follow-up assessment. Further, we will investigate the role that three potentially important variables may play in these relationships: ^[[7mpatient^[[m depression, gender, and marital satisfaction. Finally, the proposed research will attempt to replicate in a larger sample of pain ^[[7mpatient^[[m couples findings from the previous funding period regarding the reliability and validity of the revised LIFE coding system and the identification of sequential patterns of ^[[7mpatient^[[m pain behavior and spouse solicitous behavior. At each assessment, couples will be videotaped while performing a series of common household tasks validated in prior research. These videotapes will be scored using a system for coding sequential patterns of ^[[7mpatient^[[m and spouse behaviors. ^[[7mPatient^[[m and spouse self-report measures of functional disability, pain behaviors and associated spouse responses, depression, and marital satisfaction will also be obtained. The results of this study may pave the way for the reliable identification of ^[[7mpatient^[[m couples most in need of intervention focused on changing ^[[7mpatient^[[m-spouse interactions and the development of treatments aimed at altering spouse behaviors contributing to ^[[7mpatient^[[m disability.

R01CA65879

FOX, SARAH A

VARIATION IN PHYSICIAN AND ^[[7mpatie

NT^[[m US

-PROJECT NUMBER.....1 R01 CA65879-01

FY 94

FOX, SARAH A

IRG/INTRAMURAL UNIT..HSDG

RAND

AWARD AMOUNT..... \$602,051

1700 MAIN ST, PO BOX 2138

SANTA MONICA, CA 90407-2138

PERFORMING ORGANIZATION: RAND CORPORATION

TITLE VARIATION IN PHYSICIAN AND ^[[7mpatient^[[m USE OF MAMMOGRAPHY

ABSTRACT:

^[[7meducation^[[m for physicians, based o n the principle of self-regulation provided through an interactive seminar, will be effective in changing physicians' clinical behavior and improving their performance as health educators and counselors. We will also assess the effects of ^[[7meducation^[[m for pediatricians on the self-managemen t behavior, health status, and health care utilization of their ^[[7mpatient^[[ms. A true experimental design involving 52 physicians and 468 parent-child pairs from their practices will be utilized. A team of researchers from the University of Michigan and Columbia University will carry out the study in the Ann Arbor, Michigan and Metropolitan New York areas. The study is unique in that it is the first evaluation research to focus on pediatricians who treat asthma and to apply theories of self-regulation of behavior to physician ^[[7meducation^[[m. It is one of few to use changes in ^[[7mpatient^[[m self-management behavior and health care use as outcomes of physician ^[[7meducation^[[m.

R25CA57864	BAKEMEIER, RICHARD F	CANCER CENTER OUTREACH ^[[7mEDUCATION
^[[m PROG		
-PROJECT NUMBER.....5 R25 CA57864-02		
	FY 93	BAKEMEIER, RICHARD F
IRG/INTRAMURAL UNIT..SRC		UNIV OF COLORADO HLTH SCIS CTR
AWARD AMOUNT.....	\$107,165	4200 E NINTH AVE/ BOX B190
		DENVER, CO 80262
PERFORMING ORGANIZATION: UNIVERSITY OF COLORADO HLTH SCIENCES CTR		
TITLE CANCER CENTER OUTREACH ^[[7mEDUCATION^[[m PROGRAMS		

ABSTRACT:

The long-term goal of this proposed program is to facilitate cancer ^[[7meducation^[[m outreach programs in the Rocky Mountain region which will result in a self-sustaining community-based continuing ^[[7meducation^[[m system directed both at health care professionals and lay groups. The specific aims of the proposed program include assessments of cancer ^[[7meducation^[[m needs in the region, which involve a collaborative effort between the University of Colorado Cancer Center, the University of New Mexico Cancer Center, and the combined input of the Wyoming Department of Health and the Wyoming Medical Society. A centralized clearing house for developing and coordinating cancer ^[[7meducation^[[m seminars, workshops, and short course s is available at the University of Colorado Cancer Center, the eligible applicant for this grant program. Outreach ^[[7meducation^[[m activities will b e planned and coordinated to minimize costs and provide the optimal availability of activities to potential participants and to encourage the active participation of local health care professionals and lay leaders so they may continue the activities after the period of the grant funding. Cities in Colorado, New Mexico, and Wyoming have been grouped so outreach ^[[7meducation^[[m teams can visit two or three cities during one trip. A multidisciplinary Advisory Subcommittee has been organized to assist in choosing sites, topics, and presenters. Schedules will be developed which allow contact between the outreach ^[[7meducation^[[m teams and both professional and lay groups during one or two highly coordinated days. Preparatory seminars for presenters, and assistance with

slides and handouts will be coordinated by two ^[[7meducation^[[m experts on the project staff. An ongoing monitoring and evaluation program will be conducted to ensure continual evolution of the program, seeking to maintain an emphasis on cancer prevention. A second project in the program involves the production of verbatim excerpts from PDQ, the NCI cancer prognosis and treatment database. Termed PDQ in Brief, these will provide primary care physicians and nurses with readable, current information which will be distributed at no cost with the Rocky Mountain Cancer News, a bi-monthly publication of the Rocky Mountain Cancer Information Service, which is mailed to all physicians and many nurses in Colorado, New Mexico, and Wyoming.

N01H029023 CADY, DONALD H PUBLIC ^[[7mEDUCATION^[[m CAMPAIGN SU
PPORT
-PROJECT NUMBER.....5 N01 H029023-04
FY 94 CADY, DONALD H
IRG/INTRAMURAL UNIT..
AWARD AMOUNT..... \$1,188,000

PERFORMING ORGANIZATION: PORTER, NOVELLI AND ASSOCIATES
TITLE PUBLIC ^[[7mEDUCATION^[[m CAMPAIGN SUPPORT

ABSTRACT:

The National Heart, Lung, and Blood Institute coordinates several national ^[[7meducation^[[m programs. Each of NHLBI's nationally-focused programs (high blood pressure, cholesterol, blood resource, asthma, heart attack alert, obesity) plan, coordinate, and implement comprehensive efforts in professional, ^[[7mpatient^[[m and public ^[[7meducation^[[m. These nationally- focused programs are operated in cooperation with the major national voluntary and professional organizations concerned with each health area. Mass media campaigns have played an important role in the ^[[7meducation^[[mal efforts. The purpose of this contract is to provide for the planning and development of mass media communications activities and products in support of the public ^[[7meducation^[[m goals of all of NHLBI's ^[[7meducation^[[m prog rams. Specifically, this statement of work requires the contractor provide mass media support for high blood pressure, cholesterol, blood resources, including bone marrow, asthma, heart attack alert, and obesity ^[[7meducation^[[m. The contractor shall provide the necessary personnel, facilities, services, equipment, supplies, and administrative support not otherwise furnished by the Government to plan, develop, distribute, and evaluate radio, television, and print public service announcements, arrange for travel and per diem for participants to NHLBI meetings, conduct and/or obtain research, and develop and test new mass media vehicles to reach NHLBI target audiences with health messages.

R44DK44402 BROWN, STEPHEN J COMPUTER GAME FOR DIABETES ^[[7mEDUCA
TION^[[m
-PROJECT NUMBER.....5 R44 DK44402-03
FY 93 BROWN, STEPHEN J
IRG/INTRAMURAL UNIT..ZRG1 RAYA SYSTEMS INCORPORATED

AWARD AMOUNT..... \$133,525

2570 WEST EL CAMINO REAL
MOUNTAIN VIEW, CA 94040

PERFORMING ORGANIZATION: RAYA SYSTEMS, INC.

TITLE COMPUTER GAME FOR DIABETES ^[[7mEDUCATION^[m

ABSTRACT:

This proposal seeks support to develop and study an ^[[7meducation^[mal video g ame for children with diabetes. Diabetes is managed largely by ^[[7mpatient^[ms themselves; ^[[7mpatient^[m knowledge and attitude are critical to the success of treatment. Phase I established the feasibility of using a computer game to teach children about diabetes. Concurrently, a prototype game was designed for a popular home-based video game system. Phase II will expand this prototype into a commercial quality ^[[7meducation^[mal video game and study it s efficacy in diabetes ^[[7meducation^[m in a controlled trial. Children with diabetes, age 10 to 14, will receive the video game to use at home for two months. Researchers will measure subject's knowledge of diabetes, attitudes, self-efficacy, behavior and metabolic control using pre-tests, post-tests and a six-month follow-up. The results will be compared with ^[[7mpatient^[ms not receiving the intervention. As a check on the measures, t he game cartridges will unobtrusively measure usage and the players' ability to master the diabetes-based game strategy. The researchers hypothesize that a properly designed ^[[7meducation^[mal intervention, when combined with intrinsic motivations of entertainment quality video games, could lead to significant improvements in the knowledge, attitudes, self-efficacy, behavior and metabolic control of children with diabetes.

R25CA57866 BERGER, NATHAN A

CANCER SCREENING ^[[7mEDUCATION^[m F

OR OLDER

-PROJECT NUMBER.....5 R25 CA57866-02

FY 93

BERGER, NATHAN A

IRG/INTRAMURAL UNIT..SRC

CASE WESTERN RESERVE UNIV

AWARD AMOUNT..... \$108,000

10900 EUCLID AVE

CLEVELAND, OH 44106

PERFORMING ORGANIZATION: CASE WESTERN RESERVE UNIVERSITY

TITLE CANCER SCREENING ^[[7mEDUCATION^[m FOR OLDER MINORITY ADULTS

ABSTRACT:

The overall objective of this proposal is to improve cancer morbidity and mortality in older, low income, minority adults from Cuyahoga County, Ohio by implementation of a series of ^[[7meducation^[mal interventions amongst health care professionals, religious leaders and community members to improve the knowledge, attitudes and practices regarding utilization and participation in cancer prevention, screening, early detection and treatment programs. This goal will be accomplished by implementation of the following specific aims: 1. A community derived, peer educator based cancer prevention program, already shown to be successful for improving utilization of screening mammography in older, low income, minority women, will be further developed and extended to improve utilization of screening programs for breast, prostate and colorectal cancer and to foster more widespread use of

cancer prevention practices in the target community. 2. Formal ^[[7meducation^[m conferences will be developed and implemented to inform minority physicians, health care professionals and influential community members such as religious leaders as to the need for appropriate practices of cancer screening and benefits of early detection programs for older, minority adults. 3. A Cancer-Outreach ^[[7mEducation^[m Nurse Specialist Program will be develop ed to provide on-site, office based, ^[[7meducation^[m for physicians and other health care professionals to encourage improvement and incorporation of cancer screening and detection procedures at private and community facilities providing health care to older, minority adults. 4. A Minority Community Based Advisory Board will be formally constituted to focus on reduction of cancer morbidity and mortality in the older, low income, minority community and to evaluate and advise on further development and utilization of the programs outlined in the first three specific aims above.

U10EY09898 LEE, ELISA T HEALTH ^[[7mEDUCATION^[m PROGRAM FOR
DIABETIC

-PROJECT NUMBER.....3 U10 EY09898-02S1

FY 94

LEE, ELISA T

IRG/INTRAMURAL UNIT..VSN

UNIV OF OKLAHOMA HLTH SCI CTR

AWARD AMOUNT..... \$14,710

801 NE 13TH ST, PO BOX 26901

OKLAHOMA CITY, OK 73190

PERFORMING ORGANIZATION: UNIVERSITY OF OKLAHOMA HLTH SCIENCES CTR

TITLE HEALTH ^[[7mEDUCATION^[m PROGRAM FOR DIABETIC EYE DISEASE

ABSTRACT:

This application proposes to develop, implement, and evaluate a comprehensive culture-specific and community-based ^[[7meducation^[m program fo r the prevention of eye disease in diabetic Oklahoma Indians. The overall objectives are to increase awareness and knowledge of diabetic eye disease and to improve health behavior and health-care seeking practice in order to prevent or reduce visual impairment and vision loss. The specific aims are: (1) To assess the current knowledge and awareness of diabetic eye disease in the diabetic Oklahoma Indian ^[[7mpatient^[ms in relation to cultural, socioeconomic, and access factors. (2) Using a multi-disciplinary and multi-institutional approach to develop culture-specific comprehensive ^[[7meducation^[mal materials, including clinica l and epidemiologic information and basic science principles, for the prevention of eye disease. (3) To disseminate the ^[[7meducation^[mal materials developed through a community outreach program with family, tribal, and community support. (4) Through this comprehensive ^[[7meducation^[m program, to improve the attitudes of diabetic ^[[7mpatient^[ms toward prevention of and intervention for diabetic eye disease and consequently improve the health-care seeking practices of these ^[[7mpatient^[ms. (5) To evaluate the comprehensive ^[[7meducation^[m program for its short-term effectiveness and compare it to a more traditional method of information dissemination. In addition, we will investigate cost-effective methods for facilitating access to comprehensive eye examination by primary health care providers and subsequent referral for evaluation and treatment by an ophthalmologist when indicated. The study population will be Native Americans who reside in southwestern Oklahoma. The rates of diabetes in this group have reached epidemic proportions. Available data also indicate high incidence and prevalence of eye

PERFORMING ORGANIZATION: BAYLOR COLLEGE OF MEDICINE
TITLE NATIONAL DES ^[[7mEDUCATION^[[m PROGRAM

ABSTRACT:

The purpose of this study is to document barriers and test strategies with a replicable model to improve the appropriate identification, diagnosis, and treatment of DES-associated medical conditions. The specific aims of this study are: 1) to identify potentially DES-exposed women and offspring in addition to those already registered in the DESAD project; 2) to reach health providers and the DES-exposed population in a cost effective strategy to disseminate the most current information about DES exposure sequelae and treatment; and, 3) to provide clinical and ^[[7meducation^[[mal consultation to physicians, nurses and DES-exposed women and their children through an expansion of previous efforts with the establishment of the Southwest Regional DES Clinical Center. A behavioral model by Prochaska & DiClemente is utilized in this study which presumes that all persons are not at the same point of adopting a specific health-related practice, such as surveillance and treatment of DES exposure. This theoretical model will facilitate the interpretation of the effect of a health communication intervention with two population targets: health providers and DES-exposed women in the state of Texas. Several methods will be used including specific sampling techniques to identify the exposed population; ^[[7meducation^[[m with multi-media and other schema; measurement of health practices in the exposed population and readiness to act on germane DES information; and, identification and ^[[7meducation^[[m of health providers. These methods are cost effective and efficient, utilizing existing professional organizations and print/television media to promulgate specific health information to improve identification of potential DES-exposed women and their offspring and health providers.

R01HG01003 KELEHER, CYNTHIA A HUMAN GENOME PROJECT ^[[7mEDUCATION^[[m OUTREA
-PROJECT NUMBER.....5 R01 HG01003-02

IRG/INTRAMURAL UNIT..GNM FY 94 KELEHER, CYNTHIA A
AWARD AMOUNT..... \$101,449 STANFORD UNIV SCH OF MEDICINE
STANFORD, CA 94305

PERFORMING ORGANIZATION: STANFORD UNIVERSITY
TITLE HUMAN GENOME PROJECT ^[[7mEDUCATION^[[m OUTREACH

ABSTRACT:

With its applications for genetic screening and recombinant pharmaceuticals, and its potential for use in gene therapy, the information obtained by the Genome Project will have a profound impact on public health. The long-term objective of this grant is to help enable the general public in San Francisco to make educated decisions on the personal, ethical, and social questions raised by the work of the Genome Project in medicine and other areas that will affect their lives. This objective will be

achieved by an ^[[7meducation^[mal outreach program designed to provide the public with a basic, working understanding of the science behind, applications of, and ethical issues raised by the Genome Project. The ^[[7meducation^[mal program consists of four specific aims. The first aim is to develop and present in high school classrooms a curriculum consisting of laboratory experiments and "dry-lab" exercises using three-dimensional models that addresses the ^[[7meducation^[mal goals described above. The second aim is to reach members of the public outside the high schools by developing interactive exhibits and laboratory demonstrations about the Genome Project for use in a "hands-on" public science museum, The Exploratorium. The third aim is to increase the depth and range of public understanding of Genome Project-related subjects by providing lectures and discussions on a variety of topics of interest to groups including genetic disease support organizations, adult ^[[7meducation^[m classes, and high school and junior college students. The fourth aim is to demystify scientific research by bringing members of the general public into a working laboratory to talk with Genome Project scientists and to manipulate laboratory equipment in an interactive tour of the Human Genome Mapping Center at the University of California, San Francisco.

R18AI30151	LEWIS, MARY A	COMMUNITY BASED ASTHMA ^[[7mEDUCATION
^[[m FOR		
-PROJECT NUMBER.....5 R18 AI30151-03		
	FY 93	LEWIS, MARY A
IRG/INTRAMURAL UNIT..AIDS		UNIV OF CALIFORNIA - LOS ANGEL
AWARD AMOUNT..... \$360,834		10833 LE CONTE AVENUE
		LOS ANGELES, CA 90024-6917
PERFORMING ORGANIZATION: UNIVERSITY OF CALIFORNIA LOS ANGELES		
TITLE COMMUNITY BASED ASTHMA ^[[7mEDUCATION^[m FOR LATINO CHILDREN		

ABSTRACT:

This study proposes to use a quasi-experimental design (time series) to examine the effects of a community organization and health ^[[7meducation^[m model designed to empower Latino parents to develop a coaliti on to 1) work with a local Health Department and community agencies to implement a community based program to improve the care of children with asthma and 2) to assure that their children with asthma have access to an ^[[7meducation^[mal self-management program demonstrated to have a significant impact on their children's asthma (in terms of reductions in hospitalizations and emergency room visits). The design incorporates this child-centered, family-focused intervention for children with asthma (ACT Para Los Ninos) within an overall community organization intervention. The impact of ACT on the children/families will be assessed in a one year pre-/post-comparison of outcome measures. The impact of the community organization intervention will be assessed by comparing community asthma-related activities in the experimental community to a comparison community. Children/families with asthma will be identified in both communities (N-450) and serve as sources of information on levels of community activity/concerns (to be verified) over the course of the study. In the experimental community, 150 children will participate in the ACT program. Data will be collected pre-intervention and post-intervention on children receiving ACT, and a comparison group (N-300) in a community un-involved in organizing efforts. Children's measures include knowledge and attitudes related to care, self-esteem,

R44CA56263 WRIGHT, MICHAEL P COMPUTER ^[[7mEDUCATION^[[m AND RISK
ASSESSMEN
-PROJECT NUMBER.....2 R44 CA56263-02A1

IRG/INTRAMURAL UNIT..ZRG1	FY 93	WRIGHT, MICHAEL P
AWARD AMOUNT..... \$163,294		SCIENTIFIC SOCIAL RESEARCH
		504 EAST BROOKS
		NORMAN, OK 73071

PERFORMING ORGANIZATION: SCIENTIFIC SOCIAL RESEARCH, INC.
TITLE COMPUTER ^[[7mEDUCATION^[[m AND RISK ASSESSMENT FOR HIV INFECTION

ABSTRACT:

This project is to support the continued testing, validation, and refinement of computer software for personal anonymous risk assessment for HIV infection. The software, originally developed as a stand-alone microcomputer system, performs a detailed interview in privacy. Personal sexual history data provided by the respondent is analyzed by the software's expert system which incorporates probability computation supported by databases consisting of local estimates of HIV infection and per-event infectivity specific to vaginal and anal intercourse. The software also interviews respondents and assesses risk on the basis of personal intravenous drug abuse and blood transfusion history. The software advises respondents as to whether their past experience places them at risk for HIV infection. If so, they are advised to follow up with antibody tests. Users not at risk are cautioned to avoid risk of exposure to HIV. The interactive interview is preceded by a sequence of educational screens. Additionally, the software writes anonymous interview data to disk file for statistical analysis in support of health behavior research. The software was tested in a preliminary study which yielded publication. Continued research was supported by a Phase I SBIR grant. For a Phase II project, several new tasks are proposed and presented in the research plan.

R01AA08278 BUCHSBAUM, DAVID G IMPROVING PHYSICIAN MANAGEMENT OF ALC
-PROJECT NUMBER.....5 R01 AA08278-03

IRG/INTRAMURAL UNIT..ALCP	FY 92	BUCHSBAUM, DAVID G
AWARD AMOUNT..... \$172,488		UNIVERSITY OF COLORADO
		CAMPUS BOX 447
		BOULDER, CO 80309-0447

PERFORMING ORGANIZATION: VIRGINIA COMMONWEALTH UNIVERSITY
TITLE IMPROVING PHYSICIAN MANAGEMENT OF ALCOHOL DISORDERS

ABSTRACT:

This application proposes a project that will improve primary care practitioners' recognition and management of ^[[mpatient^[[ms with alcohol dependence and abuse

and improve the outcomes of patients diagnosed with these disorders. After their participation in a series of medical workshops on alcoholism, all 30 first year internal medicine trainees practicing in the Primary Care Associates Group practice at the Medical College of Virginia will be randomly assigned to either an intervention group that will receive feedback on their patients diagnosed as alcoholic by DSM III-R criteria using the Diagnostic Interview Schedule (DIS) or a control group that will receive no such feedback. The feedback will include the patient's diagnosis, symptom criteria upon which the diagnosis is based and recency of last reported symptom, reported estimate of alcohol consumed per week and recency of last reported drink and guidelines for the patient's management. Physician recognition and management of patients diagnosed with dependence or abuse will be evaluated during a 12 month period of feedback and for six months after cessation of feedback in the following manner: Post visit interviews to assess degree of intervention, medical record review for physician recording of alcohol problems and their management, frequency of patient referral to a clinic based rehabilitation counselor and scores on a structured substance abuse attitude survey modified for alcoholism. Statistical analysis will be applied to any differences in measures of attitudes and clinical performance between the feedback group of physicians and the control group of physicians. The effectiveness of physician intervention on patient outcome will be statistically analyzed using the following variables: Duration of symptom free interval on retest with the DIS, quantity of alcohol consumed, functional status as measured by the Sickness Impact Profile, patient health service utilization, and Gamma Glutamyl Transpeptidase enzyme activity.

R01HL44492	OCKENE, IRA S	PHYSICIANS ROLE IN LOWERING ELEVATED
-PROJECT NUMBER.....5 R01 HL44492-04		
	FY 94	OCKENE, IRA S
IRG/INTRAMURAL UNIT..SRC		UNIV OF MASSACHUSETTS MED CTR
AWARD AMOUNT.....	\$559,313	55 LAKE AVENUE, NORTH
		WORCESTER, MA 01655
PERFORMING ORGANIZATION: UNIVERSITY OF MASSACHUSETTS MEDICAL SCH		
TITLE PHYSICIANS ROLE IN LOWERING ELEVATED LIPIDS BY DIET		

ABSTRACT:

There is substantial evidence that blood cholesterol levels are causally related to the development and progression of coronary heart disease (CHD), and that alteration of cholesterol and lipoprotein levels can alter the clinical course of CHD. In 1984 the National Institutes of Health Consensus Development Conference reviewed the accumulated literature, and concluded that both population-based and patient-based approaches to lowering blood cholesterol levels were appropriate. Following the Consensus Conference report the National Cholesterol Education Program was developed, and an expert panel developed guidelines for screening and treatment. Dietary therapy is recommended for all adults with a blood cholesterol level >200 mg/dl; further classification and treatment is based on total cholesterol level; lipoprotein analysis; and risk factors. A series of algorithms guide the clinician to further dietary intervention, retesting, and

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Item: 1

UI 90161067

AU Dayashankar

AU Prasad MA

TI Calculation of the proximity function of electrons.

SO Radiat Res 1990 Feb;121(2):142-8

JT RADIATION RESEARCH

AD Division of Radiological Protection, Bhabha Atomic Research Centre,
Bombay, India.

LA Eng

AB A new semianalytical method to calculate the proximity function for
electrons is proposed. An integral equation for the proximity function
that can be solved by using information on the spatial dose
distributions is obtained. The proximity function for electrons in the
energy range from 10 eV to 10 keV is calculated by solving the equation
numerically, using a set of electron collision cross sections for water
vapor. The results are in good agreement with those obtained using the
Monte Carlo method. The proposed method can be used for electrons of
high energies much more efficiently than the Monte Carlo method.

PT JOURNAL ARTICLE

MJ Electrons

MI Mathematics

MI Models Theoretical

MI Radiation Effects

Item: 2

UI 90205261

AU Fry RJ

AU Fry SA

TI Health effects of ionizing radiation.

SO Med Clin North Am 1990 Mar;74(2):475-88

JT MEDICAL CLINICS OF NORTH AMERICA

AD Biology Division, Oak Ridge National Laboratory, Tennessee.

LA Eng

AB Although humans have evolved in an environment of ionizing radiation, it

was not until man-made sources were developed that the effects of ionizing radiation started to become known. Detection and measurement of radiation is not only sophisticated but widely applied. This article deals with exposure to this kind of radiation and the risk it may cause.

PT JOURNAL ARTICLE
MJ Radiation Effects
MI Accidents
MI Environmental Exposure
MI Human
MI Lung Neoplasms /Etiology
MI Neoplasms, Radiation-Induced /Epidemiology
MI Occupations
MI Radiation Protection
MI Radiation Ionizing
MI Risk Factors
MI Support, U.S. Gov't, Non-P.H.S.
MI United States

Item: 3

UI 90256406
AU Vetter RJ
TI Impact and misuse of BEIR V [editorial]
SO Health Phys 1990 May;58(5):557-8
JT HEALTH PHYSICS
LA Eng
PT EDITORIAL
MJ Radiation Effects
MJ Radiation Ionizing
MI Dose-Response Relationship, Radiation
MI Human
MI Neoplasms, Radiation-Induced /Etiology
MI Risk

Item: 4

UI 90261687
AU Stram DO
AU Akiba S
AU Neriishi K
AU Stevens RG
AU Hosoda Y
TI Smoking and serum proteins in atomic-bomb survivors in Japan.
SO Am J Epidemiol 1990 Jun;131(6):1038-45
JT AMERICAN JOURNAL OF EPIDEMIOLOGY
AD Children's Cancer Study Group, University of Southern California, Pasadena.
LA Eng
AB Associations of smoking habit with serum levels of total protein as well as protein fractions were studied in a population consisting of 4,739 atomic-bomb survivors and unexposed control subjects in Hiroshima, Japan who participated in the 1979-1981 period of the Adult Health Study, an

ongoing health follow-up program of the Radiation Effects Research Foundation. Smoking was strongly related to serum protein concentration after correction for age, sex, and body mass index. Among current smokers, levels of total protein, beta globulin, and gamma globulin were significantly lower and levels of alpha-1 and alpha-2 globulin were significantly higher, when compared with nonsmokers. For serum albumin levels a decrease was also noted, but it failed to attain statistical significance. Ex-smokers were indistinguishable from nonsmokers in terms of the serum protein levels analyzed. With an increase of the amount of daily cigarette consumption, monotonic increases of serum levels were observed only in alpha-1 globulin. Duration of smoking was related to increased alpha-1 and alpha-2 globulin. Smoking duration was also associated with albumin level, but the trend was not monotonic. The radiation exposure effect on serum protein level was significant in several instances but was in general much smaller than the smoking effect, and its inclusion in the regression models did not noticeably affect the association between smoking and serum proteins.

PT JOURNAL ARTICLE
 MJ Blood Proteins /Analysis
 MJ Radiation Effects
 MJ Smoking /Blood
 MI Age 19 and over
 MI Aged
 MI Aged 80 and over
 MI Cohort Studies
 MI Dose-Response Relationship, Radiation
 MI Female
 MI Human
 MI Japan /Epidemiology
 MI Male
 MI Middle Age
 MI Nuclear Warfare
 MI Serum Albumin /Analysis
 MI Smoking /Epidemiology
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Time Factors

Item: 5

UI 90308927
 AU Boice JD Jr
 TI Studies of atomic bomb survivors. Understanding radiation effects
 [comment]
 SO JAMA 1990 Aug 1;264(5):622-3
 JT JAMA
 AD Radiation Epidemiology Branch, National Cancer Institute, Bethesda, MD 20892.
 LA Eng
 PT COMMENT
 PT JOURNAL ARTICLE

MJ Nuclear Warfare
MJ Radiation Effects
MI Female
MI Human
MI Japan
MI Neoplasms, Radiation-Induced /Epidemiology
MI Pregnancy
MI Prenatal Exposure Delayed Effects
MI Radiation Ionizing

Item: 6

UI 90382401
AU Gochfeld M
TI Microelectronics, radiation, and superconductivity.
SO Environ Health Perspect 1990 Jun;86:285-9
JT ENVIRONMENTAL HEALTH PERSPECTIVES
AD University of Medicine and Dentistry, New Jersey-Robert Wood Johnson Medical School, Piscataway 08854.
LA Eng
AB Among the costs of technology are health hazards that face employees and consumers. New advances in the highly competitive field of microelectronics involve exposure to a variety of hazards such as gallium arsenide. Small high-technology industries appear unprepared to invest in health and safety. Although stray electromagnetic fields are not a new development, researchers are beginning to assemble data indicating that such fields pose a significant cancer risk under certain circumstances. Data have been obtained on fields associated with power lines on the one hand and consumer products on the other. Although not conclusive, the data are sufficient to warrant carefully designed research into the risks posed by electromagnetic fields. Because the scientific issues require research, there is a need to make basic social value decisions that will determine which technologies will be developed and which ones may be set aside because of their danger at the present time.
PT JOURNAL ARTICLE
MJ Electronics /Trends
MJ Environmental Health /Trends
MJ Radiation Effects
MI Electromagnetic Fields /Adverse Effects
MI Forecasting
MI Human
MI Public Opinion
MI Technology /Trends

Item: 7

UI 90205262
AU Wilkening GM
AU Sutton CH
TI Health effects of nonionizing radiation.
SO Med Clin North Am 1990 Mar;74(2):489-507

JT MEDICAL CLINICS OF NORTH AMERICA
AD Environmental Management and Safety Center, AT&T Bell Laboratories,
Murray Hill, New Jersey.
LA Eng
AB Electromagnetic energy in the microwave and radiofrequency bands can
produce biologic effects, which are predominantly thermal. During
therapeutic use under medical supervision, desired biologic effects are
produced and potentially injurious effects minimized. The biologic
effects of electromagnetic fields have materialized because of a recent
concern that relatively low-level fields produced by everyday electrical
appliances, wiring in the home, and power transmission lines may be
causally related to a number of detrimental health effects.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Electromagnetic Fields
MI Human
MI Hyperthermia Induced
MI Magnetic Resonance Imaging
MI Neoplasms /Therapy C4 C4.0
MI Neoplasms, Radiation-Induced /Etiology
MI Nuclear Magnetic Resonance
MI Nuclear Medicine
MI Occupational Diseases /Etiology
MI Radiation, Non-Ionizing
MI Radiobiology
MI Support, U.S. Gov't, Non-P.H.S.

Item: 8

UI 90251799
AU Makrigiorgos G
AU Adelstein SJ
AU Kassis AI
TI Auger electron emitters: insights gained from in vitro experiments.
SO Radiat Environ Biophys 1990;29(2):75-91
JT RADIATION AND ENVIRONMENTAL BIOPHYSICS
AD Shields Warren Radiation Laboratory, Department of Radiology, Harvard
Medical School, Boston, MA 02115.
LA Eng
AB This paper outlines the evolution of the current rationale for research
into the biological effects of tissue-incorporated Auger electron
emitters. The first section is a brief review of the research conducted
by several groups in the last fifteen years. The second section
describes the in vitro model used in our studies, dosimetric
calculations, experimental techniques and recent findings. The third
section focuses on the use of Auger electron emitters as in vitro
microprobes for the investigation of the radiosensitivity of distinct
subcellular components. Examination of the biological effects of the
Auger electron emitter 125I located in different cellular compartments

of a single cell line (V 79 hamster lung fibroblast) verifies that DNA is the critical cell structure for radiation damage and that the sensitive sites are of nanometer dimensions. The data from incorporation of several Auger electron emitters at the same location within DNA suggest that there are no saturation effects from the decay of these isotopes (i.e. all the emitted energy is biologically effective) and provide some insight into which of the numerous physical mechanisms accompanying the Auger decay are most important in causing cell damage. Finally the implications of Auger electron emission for radiotherapy and radiation protection in diagnostic nuclear medicine are detailed and further research possibilities are suggested.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, ACADEMIC
MJ Electrons
MJ Radiation Effects
MI Cell Survival /Radiation Effects
MI Human
MI Idoxuridine /Metabolism
MI Iodine Radioisotopes
MI Radiation Dosage
MI Radiation Protection
MI Radiotherapy
MI Support U S Govt P H S

Item: 9

UI 90369795
AU Damianov N
TI [The use of laser technology in general and abdominal surgery]
SO Khirurgiia (Sofiia) 1990;43(1):69-76
JT KHIRURGIIA
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Abdomen /Surgery
MJ Laser Surgery
MI Human
MI Laser Surgery /Instrumentation
MI Laser Surgery /Methods
MI Lasers
MI Radiation Effects

Item: 10

UI 91019464
AU Abelson PH
TI Uncertainties about health effects of radon [editorial] [see comments]
SO Science 1990 Oct 19;250(4979):353
JT SCIENCE
LA Eng

PT EDITORIAL
MJ Radiation Effects
MJ Radon
MI Human
MI United States
MI United States Environmental Protection Agency

Item: 11

UI 91028191
AU Tsvirenko SV
AU Sharavara AA
AU Iushkov VG
AU Iastrebov AP
TI [Role of bone marrow glycosaminoglycans in the reaction of the hematopoietic tissue to extreme conditions]
SO Biull Eksp Biol Med 1990 Jul;110(7):29-30
JT BIULLETEN EKSPERIMENTALNOI BIOLOGII I MEDITSINY
LA Rus For
AB The authors studied medullary glucosaminoglycans of rats and mice in extreme effects (hypoxia, hyperbaric oxygenation, inflammation, radiation, cooling, hemorrhage). Four types of reaction were determined which cause different changes of proliferation of hematopoietic cells. Hematopoiesis stimulation is accompanied by regular change of types of reaction of hematopoietic microenvironment. Its disturbance affects the changes of hematopoiesis and blood regeneration rate. It was shown that the increase of neutral glucosaminoglycans concentrations in bone marrow depended on the play ground and proliferative activity of erythroid sprout and that of acid glucosaminoglycans--primarily of granulocytic sprout.

PT JOURNAL ARTICLE
MJ Bone Marrow /Physiology
MJ Glycosaminoglycans /Analysis
MJ Glycosaminoglycans /Physiology
MJ Hematopoiesis
MI Animal
MI Anoxia /Physiopathology
MI Bone Marrow /Chemistry
MI Comparative Study
MI English Abstract
MI Hemorrhage /Physiopathology
MI Hyperbaric Oxygenation
MI Hypothermia /Physiopathology
MI Inflammation /Physiopathology
MI Male
MI Mice
MI Mice Inbred CBA
MI Radiation Dosage
MI Radiation Effects
MI Rats
MI Rats Inbred Strains

Item: 12

UI 91028423
AU Voit EO
AU Yi PN
TI Comparison of isoeffect relationships in radiotherapy.
SO Bull Math Biol 1990;52(5):657-75
JT BULLETIN OF MATHEMATICAL BIOLOGY
AD Department of Biometry, Medical University of South Carolina, Charleston 29425.
LA Eng
AB Irradiation affects numerous physiological processes within cells and tissues and can lead to damage or death. If the damage is not too severe, cells have the ability to repair and regenerate. Many small injuries are repaired more easily than ones causing extensive damage and, consequently, tissues typically respond differently to one large dose of radiation than to many small doses, separated in time. In the radiotherapy of tumors, the choice of the fractionation regimen of dose over time is therefore as crucial as the total radiation dose. The interdependence between total dose, fractionation regimen, and radiation effect has been described mathematically with various isoeffect relationships. These relationships appear to be fundamentally distinct and have been considered unrelated; some even claim that one class of isoeffect relationships is appropriate whereas other relationships are rather useless. We examine how alternative isoeffect models relate to each other and test the reliability of estimating parameter values of one model from the other.
PT JOURNAL ARTICLE
MJ Mathematics
MJ Models Biological
MJ Radiation Effects
MJ Radiotherapy
MI Animal
MI Bone Marrow /Radiation Effects
MI Brachytherapy
MI Human
MI Regression Analysis

Item: 13

UI 91046705
AU Rothig H
AU Wiedemann D
AU Herrmann T
AU Burk G
TI [The functional efficiency of cardiac pacemakers as affected by ionizing radiation]
SO Radiobiol Radiother (Berl) 1990;31(4):341-50
JT RADIOBIOLOGIA, RADIOTHERAPIA
AD Strahlentherapieabteilung, Medizinische Akademie Carl Gustav Carus, Dresden.

LA Ger For
AB Influence of functions of cardiac pace-makers by ionizing radiation are represented, that is characterized in praxis relevant parameters as pulse duration and sensitivity in a special clear manner. For these parameters dose limits were defined in a phantom where tolerance ranges of pace-makers, guaranteed by producer, were over or underdosed. These dose values were different in dependence of installed electronic wiring diagrams. The radioresistance of pace-makers with Lewicki-wiring diagram (MCP 211 L) was higher than those with wiring diagram U 115. Measurements showed that the upper dose limits were greater than the known values with 60Co- and 9-MV-roentgen braking radiation and with that the complete programming and functional capacity of the pace-makers were conserved. The close cooperation of radiologists, physicists, cardiologists and technicians in the implantation clinic guarantees a good care for patients with pace-makers during radiotherapy without complications.

PT JOURNAL ARTICLE
MJ Pacemaker Artificial
MI English Abstract
MI Human
MI Radiation Effects

Item: 14

UI 91049639
AU Kovalenko AN
TI [The effect of low doses of ionizing radiation on human health]
SO Vrach Delo 1990 Jul;(7):79-82
JT VRACHEBNOE DELO
LA Rus For
AB Data are reported on the possible mechanism of biological effects of small doses of ionizing radiation on the human body. The lesioning effect of this radiation resulted in some of the persons in the development of disorders of the function of information and vegetative-regulatory systems determined as a disintegration syndrome. This syndrome is manifested in unspecific neuro-vegetative disorders of the function of most important physiological and homeostatic system of the body leading to weakening of the processes of compensation and adaptation. This condition is characterized by an unspecific radiation syndrome as distinct from acute or chronic radiation disease which is a specific radiation syndrome.

PT JOURNAL ARTICLE
MJ Health
MJ Radiation Effects
MI Autonomic Nervous System Diseases /Complications
MI Disease Susceptibility
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Homeostasis /Radiation Effects
MI Human
MI Radiation Injuries /Etiology

MI Radiation Tolerance

Item: 15

UI 91061264

AU Kumagai E

AU Tanaka R

AU Kumagai T

AU Onomichi M

AU Sawada S

TI Effects of long-term radiation exposure on chromosomal aberrations in radiological technologists.

SO J Radiat Res (Tokyo) 1990 Sep;31(3):270-9

JT JOURNAL OF RADIATION RESEARCH

AD Department of Medical Technology, Kumamoto University College of Medical Science, Japan.

LA Eng

AB Chromosomal aberrations in the lymphocytes of radiation technologists (RT) were analyzed by the trypsin G-banding method to study the late effects of long-term exposure to low doses of radiation. Structural aberrations were identified in 384 (2.5%) of 15,442 cells analyzed from 53 RT as compared to 177 (1.6%) of 11,136 cells from 36 healthy controls. Stable aberrations were the most frequent in both groups and were either translocations or deletions. Unstable aberrations were mainly acentric fragments in both groups. The frequency of translocations and acentric fragments was significantly higher in the RT than in the controls and was highest in the RT over 50 years. The highest frequency observed in the greater than 50 age group was attributed to the unknown for cumulative dose prior to introduction of film badges. Frequency of chromosomal aberrations correlated with the estimated dose from the film badges and years of experience of each RT based on the equation $y = 0.22 + 0.37D + 4.35D^2$, where y is overall frequency of chromosomal aberrations and D is the estimated radiation dose in Sv.

PT JOURNAL ARTICLE

MJ Chromosome Aberrations

MJ Occupational Exposure

MJ Radiation Effects

MJ Radiography

MI Human

MI Male

MI Radiation Dosage

MI Support, Non-U.S. Gov't

MI Technology Radiologic /Manpower

Item: 16

UI 91064395

AU Smyshliaeva AV

AU Kudriashov IuB

TI [The action of long-wave ultraviolet light on the body]

SO Biol Nauki 1990;(7):5-20

JT BIOLOGICHESKIE NAUKI
 LA Rus For
 AB A review of data obtained lately on the effect of ultraviolet radiation (lambda greater than 280 nm) on organism is given. The role of oxidative processes and first of all of photo lipid peroxidation of biomembranes in developing of a number of effects due to UV radiation are considered.
 PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Radiation Effects
 MJ Ultraviolet Rays
 MI Animal
 MI Dose-Response Relationship, Radiation
 MI DNA /Radiation Effects
 MI English Abstract
 MI Human
 MI Lipid Peroxidation /Radiation Effects
 MI Radiation Injuries /Etiology
 MI Radiation Injuries Experimental /Etiology

Item: 17

UI 91077024
 AU Vriesendorp HM
 TI Radiobiological speculations on therapeutic total body irradiation [published erratum appears in Crit Rev Oncol Hematol 1992 Jul;13(1):91]
 SO Crit Rev Oncol Hematol 1990;10(3):211-24
 JT CRITICAL REVIEWS IN ONCOLOGY/HEMATOLOGY
 AD Department of Radiation Oncology, Johns Hopkins Hospital, Baltimore, Maryland 21205.
 LA Eng
 AB Unexpected total body irradiation (TBI) of human beings, involved in nuclear warfare or in accidents in nuclear reactors can be lethal. In the 1950s, bone marrow transplantation was discovered as a potentially life saving procedure after TBI in the dose range of 5.0 to 12.0 Gy. Since that time, deliberate or "therapeutic" TBI has been used to condition patients with a lethal bone marrow disorder for bone marrow replacement. The therapeutic ratio of TBI followed by bone marrow transplantation is small. Many potentially lethal complications can occur, such as acute TBI side effects, late TBI side effects or immunological complications of bone marrow transplantation such as graft versus host disease or graft rejection. The benefits of TBI and bone marrow transplantation are that they offer a chance for cure of previously lethal bone marrow disorders. The optimal parameters for TBI remain to be defined. The review discusses the current clinical and experimental animal data, as they relate to the future definition of less toxic TBI procedures with a better therapeutic ratio. Different TBI procedures are required for patients with malignant vs. non-malignant disorders or for patients with histoincompatible vs. histocompatible bone marrow donors.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Whole-Body Irradiation /Methods
MI Animal
MI Dose-Response Relationship, Radiation
MI Human
MI Radiation Effects
MI Radiation Protection /Methods
MI Radiotherapy Dosage
MI Whole-Body Irradiation /Adverse Effects

Item: 18

UI 91081530
AU Yada K
TI [Electron microscopy for study of biological function]
SO Tanpakushitsu Kakusan Koso 1990 Nov;35(15):2761-5
JT TANPAKUSHITSU KAKUSAN KOSO. PROTEIN, NUCLEIC ACID, ENZYME
AD Research Institute for Scientific Measurements, Tohoku University,
Sendai, Japan.
LA Jpn For
PT JOURNAL ARTICLE
MJ Biology
MJ Microscopy Electron /Methods
MI Animal
MI Electrons
MI Radiation Effects

Item: 19

UI 91272768
AU Cl'erin M
TI [Theoretic aspects of infrared therapy approaching athermic pulses]
SO Acta Belg Med Phys 1990 Oct-Dec;13(4):217-24
JT ACTA BELGICA. MEDICA PHYSICA
AD Cliniques Uniiversitaires de Mont-Godinne UCL, Yvoir.
LA Fre For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Infrared Rays /Therapeutic Use
MJ Radiation Effects
MI Biophysics
MI Human
MI NAD /Radiation Effects
MI Physical Therapy /Methods

Item: 20

UI 90164353
AU Bean WJ
AU Mullin DM

AU Porter RM
TI Hypertension and radiation [letter]
SO AJR Am J Roentgenol 1990 Mar;154(3):659-60
JT AJR. AMERICAN JOURNAL OF ROENTGENOLOGY
LA Eng
PT LETTER
MJ Environmental Exposure
MJ Hypertension /Epidemiology
MJ Radiation Effects
MJ Radiology
MI Human
MI United States /Epidemiology

Item: 21

UI 91092922
AU Parsons PA
TI Radiation hormesis: an evolutionary expectation and the evidence.
SO Int J Rad Appl Instrum [A] 1990;41(9):857-60
JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION.
PART A, APPLIED RADIATION AND ISOTOPES
AD Department of Zoology, University of Adelaide, SA, Australia.
LA Eng
AB Fundamental to evolutionary biology is the tendency for organisms to become progressively adapted to those environments to which they are most frequently exposed. Since background radiation is a universal component of our environment, radiation hormesis is an evolutionary expectation. Whole-of-life experiments and more numerous (and evolutionarily more artificial) shorter duration and higher dose-rate experiments are consistent with this expectation. Additional research is needed especially at the molecular level to search for underlying mechanisms, and implications for radiation protection guidelines need to be analyzed.
PT JOURNAL ARTICLE
MJ Evolution
MJ Radiation Effects
MI Adaptation Physiological
MI Environmental Exposure
MI Human
MI Support, Non-U.S. Gov't

Item: 22

UI 90347312
AU Elliott TB
AU Brook I
AU Stiefel SM
TI Quantitative study of wound infection in irradiated mice.
SO Int J Radiat Biol 1990 Aug;58(2):341-50
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Department of Experimental Hematology, Armed Forces Radiobiology Research Institute, Bethesda, Maryland 20814-5145.

LA Eng
AB Bacterial infection of simple wounds was studied directly and quantitatively in adult mice given 6.5 Gy ⁶⁰Co. Three days later, when neutropenia was evident, the skin and the medial gluteus muscle of anaesthetized mice were incised. A suspension of Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae or Streptococcus pyogenes was inoculated into the wound. Bacteria per mg muscle were enumerated 3, 4 or 7 days later. The geometric means of bacteria per mg were greater in irradiated than in non-irradiated mice. Phagocytic cells were present in the wounded tissue. Hence sublethal ionizing radiation enhanced the susceptibility of mice to infections of wounds by these four bacterial species.

PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Wound Infection /Microbiology
MI Animal
MI Escherichia coli /Isolation & Purification
MI Female
MI Klebsiella pneumoniae /Isolation & Purification
MI Leukocyte Count
MI Mice
MI Muscles /Microbiology
MI Radiation Ionizing
MI Skin /Microbiology
MI Skin /Pathology
MI Staphylococcus aureus /Isolation & Purification
MI Streptococcus pyogenes /Isolation & Purification
MI Support, U.S. Gov't, Non-P.H.S.
MI Thrombocytopenia /Etiology
MI Wound Infection /Pathology

Item: 23

UI 91061015
AU Mine M
AU Okumura Y
AU Ichimaru M
AU Nakamura T
AU Kondo S
TI Apparently beneficial effect of low to intermediate doses of A-bomb radiation on human lifespan [see comments]
SO Int J Radiat Biol 1990 Dec;58(6):1035-43
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Scientific Data Center for A-Bomb Disaster, Nagasaki University School of Medicine, Japan.

LA Eng
AB Among about 100,000 A-bomb survivors registered at Nagasaki University School of Medicine, 290 male subjects exposed to 50-149 cGy showed significantly lower mortality from non-cancerous diseases than age-matched unexposed males. This was deduced from the fitting of a U-shaped dose-response relationship. Reasons for this effect in males,

but not in females, are discussed with reference to selection of individuals and to hormesis.

PT JOURNAL ARTICLE
MJ Nuclear Warfare
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Female
MI Human
MI Japan
MI Male
MI Mortality
MI Sex Characteristics
MI Survival /Physiology

Item: 24

UI 91124100
AU Macklis RM
AU Beresford B
TI Radiation hormesis.
SO J Nucl Med 1991 Feb;32(2):350-9
JT JOURNAL OF NUCLEAR MEDICINE
AD Dept. of Radiation Therapy, Harvard Medical School, Boston, MA 02115.
LA Eng
AB "Radiation hormesis" is the name given to the putative stimulatory effects of low level ionizing radiation (generally in the range of 1-50 cGy of low-LET radiation). Based on historical and pharmacologic principles reminiscent of some of the major tenets of homeopathy, most of these effects are now generally ascribed to protective feedback systems that, upon exposure to low concentrations of toxins, proceed to stimulate metabolic detoxification and repair networks. The activation of these networks may then result in net beneficial effects on the cell, organism or species. Discussions of possible stimulatory effects of low levels of ionizing radiation have recently become entangled with the separate but related question of whether a threshold dose level exists on the radiotoxicologic dose-response curve. This review summarizes some of the relevant historical and scientific data bearing on the question of radiation hormesis. We find the data in support of most of the hormesis postulates intriguing but inconclusive.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Human
MI Physical Stimulation
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S

Item: 25

UI 91141165

AU Vasilenko IIa
TI [Small doses of ionizing radiation]
SO Med Radiol (Mosk) 1991;36(1):48-51
JT MEDITSINSKAIA RADIOLOGIIA
LA Rus For
PT JOURNAL ARTICLE
MJ Radiation Dosage
MJ Radiation Effects
MI Abnormalities, Radiation-Induced /Etiology
MI Abnormalities, Radiation-Induced /Prevention & Control
MI Accidents
MI Adult
MI Age 19 and over
MI Animal
MI Female
MI Human
MI Infant Newborn
MI Male
MI Neoplasms, Radiation-Induced /Etiology
MI Neoplasms, Radiation-Induced /Prevention & Control
MI Nuclear Reactors
MI Pregnancy
MI Radiation Injuries /Etiology
MI Radiation Injuries Experimental /Etiology
MI Radiation Ionizing
MI Rats

Item: 26

UI 91180311
AU Lobachevskii PN
AU Fominykh EV
TI [Calculation of the radiation-induced delay in cell division during a study of the induction of chromosome aberrations (the theoretical and experimental bases of the approach)]
SO Radiobiologiya 1991 Jan-Feb;31(1):59-64
JT RADIOBIOLOGIIA
LA Rus For
AB The possible influence of a radiation-induced delay of cell division on the yield of chromosome aberrations has been analyzed theoretically. The analysis is based on the assumption that the delay is caused by the damages that are realized in the mitosis as chromosome aberrations. It has been shown that the distributions of cells, that are registered by the number of chromosome aberrations, are a function of time of cell fixation and may substantially differ from actual disturbance. There is a correlation between the registered and actual disturbances which is determined by the kinetics of the first mitosis of nonirradiated cells and the degree of the radiation-induced division delay. Some qualitative sequels of the proposed model are in agreement with the experimental data.
PT JOURNAL ARTICLE

- MJ Chromosome Aberrations
- MJ Radiation Effects
- MI Animal
- MI Cell Division /Radiation Effects
- MI English Abstract
- MI Mathematics
- MI Methods
- MI Models Biological
- MI Relative Biological Effectiveness
- MI Time Factors

Item: 27

- UI 91202518
- AU Echlin P
- TI Ice crystal damage and radiation effects in relation to microscopy and analysis at low temperatures.
- SO J Microsc 1991 Jan;161 (Pt 1):159-70
- JT JOURNAL OF MICROSCOPY
- AD Botany School, University of Cambridge, U.K.
- LA Eng
- AB There are several limitations to the low-temperature techniques which are currently being used for the preparation, examination and analysis of biological and organic samples by means of high-energy beam instrumentation. The low thermal conductivity of samples and the inadequacy of rapid cooling techniques means that, with the exception of thin-film suspensions and the surface of impact-cooled bulk specimens which may be vitrified, ice crystals of varying sizes will be present in nearly all samples which are quench cooled. Data are presented which indicate the depth to which adequate cryo-fixation may be achieved for both morphological and analytical studies. Although dynamic processes may be time resolved in the outer parts of quench-cooled samples, the decreased freezing rate below the surface makes resolution of these processes much less certain. The quality of information which may be obtained from quench-cooled samples is limited by radiation damage. Low-dose microscopy of vitrified thin-film suspensions of macromolecules continues to provide valid structural information at the molecular level. The increased doses needed for X-ray microanalysis present serious problems with the high spatial resolution analysis of thin frozen-hydrated sections although much less damage is observed in dried samples. A case is presented for using the outer fracture faces of frozen-hydrated bulk samples for low-resolution analysis of cells and tissues.
- PT JOURNAL ARTICLE
- PT REVIEW
- PT REVIEW, TUTORIAL
- MJ Electron Probe Microanalysis /Methods
- MJ Frozen Sections
- MJ Microscopy Electron /Methods
- MJ Microscopy Electron Scanning /Methods
- MI Freeze Fracturing

MI Radiation Effects

Item: 28

UI 91219572
AU Berenbaum MC
TI Concepts for describing the interaction of two agents [letter; comment]
SO Radiat Res 1991 May;126(2):264-8
JT RADIATION RESEARCH
LA Eng
PT COMMENT
PT LETTER
MJ Drug Interactions
MJ Radiation Effects
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S

Item: 29

UI 91239774
AU Kuzin AM
TI [The action of atomic radiation in low doses on the biota]
SO Radiobiologiia 1991 Mar-Apr;31(2):175-9
JT RADIOBIOLOGIIA
LA Rus For
AB The radiobiological studies carried out in conditions of lower and slightly increased natural radiation background have prompted an idea of "low doses" in radiobiology which is proposed for discussion. The author emphasizes that the difference between the leading molecular and cellular mechanisms that come into play under the effect of high- and low-level atomic radiation makes it incorrect to assess the risk from low radiation doses on the basis of the regularities obtained with high doses.
PT JOURNAL ARTICLE
MJ Ecology
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Mammals
MI Radiobiology

Item: 30

UI 91285846
AU Beisel D
TI Response to Hendee's 'Radiation phobia as a culturally mediated reflex' [letter]
SO Health Phys 1991 Jul;61(1):143
JT HEALTH PHYSICS
LA Eng
PT LETTER

MJ Radiation Effects
MI Human

Item: 31

UI 91289582
AU Kindzel'skii LP
TI [A. N. Kovalenko's article The effect of low doses of ionizing radiation on human health (Vrachebnoe delo, 1990, No. 7)]
SO Vrach Delo 1991 Apr;(4):100-2
JT VRACHEBNOE DELO
LA Rus For
PT JOURNAL ARTICLE
MJ Health Physics
MJ Radiation Effects
MI Accidents
MI Dose-Response Relationship, Radiation
MI Human
MI Nuclear Reactors
MI Power Plants
MI Ukraine

Item: 32

UI 91289583
AU Morozov AM
TI [A. N. Kovalenko's article The effect of low doses of ionizing radiation on human health (Vrachebnoe delo, 1990, No. 2)]
SO Vrach Delo 1991 Apr;(4):102-3
JT VRACHEBNOE DELO
LA Rus For
PT JOURNAL ARTICLE
MJ Health Physics
MJ Radiation Effects
MI Accidents
MI Dose-Response Relationship, Radiation
MI Human
MI Nuclear Reactors
MI Power Plants
MI Ukraine

Item: 33

UI 91302605
AU Belousov VV
TI [The consequences of the destruction of the ozone layer for the biosphere]
SO Izv Akad Nauk SSSR [Biol] 1991 Mar-Apr;(2):242-54
JT IZVESTIIA AKADEMII NAUK SSSR. SERIIA BIOLOGICHESKAIA
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL

MJ Environment
MJ Environmental Exposure /Adverse Effects
MJ Ozone /Radiation Effects
MJ Radiation Effects
MJ Ultraviolet Rays /Adverse Effects
MI Animal
MI Ecology
MI Environmental Microbiology
MI Human
MI Plants /Radiation Effects B6 B6.0
MI Seawater

Item: 34

UI 91310450
AU Scheer J
TI Gould and Goldman: deadly deceit--a defense [letter]
SO Health Phys 1991 Aug;61(2):279-80
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Radiation Effects
MI Human
MI Radiation Dosage

Item: 35

UI 91317268
AU Farman AG
TI Concepts of radiation safety and protection: beyond BEIR V.
SO Dent Assist 1991 Jan-Feb;60(1):11-4
JT DENTAL ASSISTANT
AD University of Louisville School of Dentistry, Kentucky.
LA Eng
AB The publication of an updated report on the biological effects of ionizing radiation (BEIR V) has focused new attention on the potential hazards associated with the use of low doses of ionizing radiation for diagnostic purposes. This article reviews the BEIR V report findings and suggests methods for reducing the risks to dental patients and the operators of dental x-ray equipment.
PT JOURNAL ARTICLE
MJ Radiation Protection
MJ Radiography Dental
MI Human
MI Occupational Exposure
MI Radiation Dosage
MI Radiation Effects

Item: 36

UI 91324940
TI VDT exposure and pregnant workers.
SO J Occup Med 1991 Jun;33(6):675-6

JT JOURNAL OF OCCUPATIONAL MEDICINE
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Computer Terminals
MJ Pregnancy Complications /Etiology
MJ Radiation
MJ Radiation, Non-Ionizing /Adverse Effects
MI Female
MI Human
MI Pregnancy
MI Radiation Effects

Item: 37

UI 91334927
AU Wambersie A
TI [Radiology and radiation protection in dental medicine. 1: Biological effects resulting from exposure to ionizing radiation]
SO Rev Belge Med Dent 1991;46(1):9-29
JT REVUE BELGE DE MEDECINE DENTAIRE
AD Unit'e de Radiobiologie et de Radioprotection UCL Cliniques Universitaires St. Luc, Bruxelles.
LA Fre For
AB The different types of biological effects produced by ionizing radiations are reviewed. Among the early effects following an acute exposure, the bone marrow syndrome and the intestinal syndrome are briefly described. They are unlikely to appear in the current conditions encountered in dental radiology. As far as skin exposure is concerned (e.g. fingers, hands), acute reactions (moist desquamation, ulceration, etc.) require high doses which are encountered only in accidental conditions. However, chronic dermatitis after repeated low dose exposure is one of the major risks in dental radiology (even without previous acute lesions), if the recommendations of radioprotection are not followed. The danger is ultimately the transformation into a radio-induced skin cancer. Among the late effects, after chronic exposure at low doses, cancer induction and the genetic effects are the most important. The risk coefficient for cancer induction is expressed by the number of lethal cancers induced per unit dose. In his last report (1988), the UNSCEAR assessed the risk coefficient between 4.5 and 7% for an absorbed dose of 1 Gy (low-LET radiation, high dose delivered at high dose rate). A low doses and low dose rates (X-and gamma rays), the UNSCEAR recommends to reduce the above risk coefficients by a factor between 2 and 10. The risk coefficient at low doses is difficult to evaluate since the rate of radio-induced cancers is small compared to the spontaneous cancer incidence. The risk of a severe genetic effect is about 1/3-1/4 of the risk of lethality from radio-induced cancer. Finally, the characteristics of the stochastic and non-stochastic effects are described. The acute effects, the late radiodermatitis and the cataract are examples of non-stochastic effects, while cancer

induction and the genetic effect are stochastic effects. In the Appendix, the most important quantities and units, used in radiation protection, are presented.

PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Protection
MJ Radiography Dental /Adverse Effects
MI Bone Marrow /Radiation Effects
MI Embryo /Radiation Effects
MI English Abstract
MI Gastrointestinal System /Radiation Effects
MI Human
MI Neoplasms, Radiation-Induced /Etiology
MI Radiodermatitis /Etiology

Item: 38

UI 91343717
AU Kaul A
TI [Low radiation doses: risks and benefits]
SO Radiologe 1991 May;31(5):225-6
JT RADIOLOGE
AD Bundesamt fur Strahlenschutz, Salzgitter.
LA Ger For
PT JOURNAL ARTICLE
MJ Radiation Dosage
MJ Radiation Effects
MI Human
MI Risk

Item: 39

UI 91356935
AU Zhloba AA
AU Sevan'kaev AV
TI [The identification of chromosome aberrations reflecting genome instability in the progeny of irradiated cells]
SO Dokl Akad Nauk SSSR 1991;316(5):1239-44
JT DOKLADY AKADEMII NAUK SSSR
LA Rus For
PT JOURNAL ARTICLE
MJ Chromosome Aberrations /Genetics
MJ Genomic Library
MJ Radiation Effects
MI Animal
MI Bromodeoxyuridine /Pharmacology
MI Cells Cultured /Drug Effects
MI Cells Cultured /Radiation Effects
MI Cells Cultured /Ultrastructure
MI Cricetulus
MI Hamsters
MI Mitosis /Drug Effects

MI Mitosis /Radiation Effects
MI Sister Chromatid Exchange /Drug Effects
MI Sister Chromatid Exchange /Radiation Effects
MI Time Factors

Item: 40

UI 91360760
AU Ruda VP
AU Kuzin AM
TI [The occurrence of hormesis during gamma-irradiation of developing rat pups]
SO Radiobiologiya 1991 May-Jun;31(3):345-7
JT RADIOBIOLOGIYA
LA Rus For
AB Development of rat pups was shown to accelerate (body mass made up 121% of control) after gamma-irradiation on day 21 of the postnatal development (2.88 cGy, dose-rate of 0.12 cGy/h). Higher cumulative doses (14.4 and 144 cGy) did not influence the body mass growth, and inhibition was only caused by doses exceeding 150 cGy.
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Animal
MI Animals Newborn /Growth & Development
MI Body Weight /Radiation Effects
MI Cesium Radioisotopes
MI English Abstract
MI Gamma Rays
MI Male
MI Physical Stimulation

Item: 41

UI 91377119
AU Ian'shin LA
TI [The combined action on the body of ionizing and nonionizing electromagnetic radiations (a review of the literature)]
SO Voen Med Zh 1991 May;(5):53-6
JT VOENNO-MEDITSINSKII ZHURNAL
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI Microwaves
MI Radiation Injuries Experimental /Etiology
MI Radiation Protection
MI Radiation Ionizing
MI Radiation, Non-Ionizing

Item: 42

UI 92018323
AU Barendsen GW
TI [Radiation effects and protection standards]
SO Ned Tijdschr Geneesk 1991 Aug 10;135(32):1428-30
JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE
AD Academisch Medisch Centrum, Laboratorium voor Radiobiologie, Amsterdam.
LA Dut For
PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Protection
MI Human
MI Maximum Permissible Exposure Level
MI Neoplasms, Radiation-Induced /Etiology
MI Radioactive Fallout
MI Reference Values

Item: 43

UI 92019286
AU King RR
TI Health effects of visual display terminals.
SO Nurs Manage 1991 Oct;22(10):61-4
JT NURSING MANAGEMENT
LA Eng
PT JOURNAL ARTICLE
MJ Computer Terminals
MJ Occupational Exposure /Adverse Effects
MI Human
MI Human Engineering
MI Occupational Exposure /Prevention & Control
MI Radiation Effects
MI Stress /Etiology
MI Stress /Prevention & Control

Item: 44

UI 92049850
AU Barendsen GW
TI [Ionizing irradiation and radioactive agents in the environment: effects and dose limitations]
SO Ned Tijdschr Geneesk 1991 Oct 5;135(40):1865-8
JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE
AD Universiteit van Amsterdam, Laboratorium voor Radiobiologie.
LA Dut For
PT JOURNAL ARTICLE
MJ Environmental Pollutants /Adverse Effects
MJ Radioactive Pollutants /Adverse Effects
MI Human
MI Maximum Permissible Exposure Level
MI Radiation Dosage
MI Radiation Effects

MI Risk Factors

Item: 45

UI 92053028
AU Vorobtsova IE
TI [Somatic and genetic consequences of radiation effects (a comparative aspect)]
SO Radiobiologiia 1991 Jul-Aug;31(4):568-70
JT RADIOBIOLOGIIA
LA Rus For
PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Genetics
MI Abnormalities, Radiation-Induced /Etiology
MI Adult
MI Age 19 and over
MI Animal
MI Cells /Radiation Effects A11 A11.0
MI Cells Cultured
MI Comparative Study
MI English Abstract
MI Female
MI Fertility /Radiation Effects
MI Human
MI Infant
MI Infant Mortality
MI Infant Newborn
MI Male
MI Mutagenesis
MI Neoplasms, Radiation-Induced /Etiology
MI Pregnancy
MI Radiation Injuries /Etiology
MI Radiation Ionizing

Item: 46

UI 92053367
AU Murphy PH
TI Acceptable risk as a basis for regulation.
SO Radiographics 1991 Sep;11(5):889-97
JT RADIOGRAPHICS
AD Nuclear Medicine Service, St Luke's Episcopal Hospital, Houston, TX 77030.
LA Eng
AB In recent years, guidelines for radiation protection have increasingly been based on estimates of the risks associated with radiation exposures and judgments regarding acceptable levels of risk. This leads to a more objective basis for regulations if the risk estimates are accurate. However, as enthusiasm for this approach expands, the large uncertainties in the risk estimates are often overlooked, and unreasonable, restrictive applications are possible. Several recent

examples of radiation protection guidelines illustrate the risk-based emphasis underlying today's radiation safety philosophy.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Protection
MI Adult
MI Age 19 and over
MI Female
MI Human
MI Male
MI Middle Age
MI Radiation Dosage
MI Radiation Effects
MI Risk Factors

Item: 47

UI 92057183
AU Rudnev MI
TI [Directives on bioeffects of the action of low levels of radiation]
SO Vestn Akad Med Nauk SSSR 1991;(8):60-1
JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR
LA Rus For
AB Literature data during 1980-1989 and own studies carried out at the Institute of Experimental Radiology, All-Union Research Center of Radiation Medicine, USSR AMS, summarized in the paper, describe three types of biological responses (increase, decrease and no response) to low-level ionizing radiation up to 100 Rem. It is shown that pathological changes in the biosystems exposed to radiation are detectable with sensitive techniques, the responses are phasic in nature and depend on the input information signal that causes energy redistribution and changes in the living system response.

PT JOURNAL ARTICLE
MJ Accidents
MJ Nuclear Reactors
MJ Radiation Dosage
MJ Radiation Effects
MI Adult
MI Age 19 and over
MI Child
MI Comparative Study
MI English Abstract
MI Human
MI Radiation Ionizing
MI Time Factors
MI Ukraine

Item: 48

UI 92080659
AU Serkiz IaI

AU Lipskaia AI
 AU Pinchuk LB
 AU Trishin VV
 AU Kataevskii IuF
 AU Koval' GN
 TI [The biological effects in animals related to the accident at the Chernobyl Atomic Electric Power Station. 1. The experimental model. The radiation loads on animals kept continuously under external and internal radiation exposure in the area of the Chernobyl Atomic Electric Power Station]
 SO Radiobiologiia 1991 Sep-Oct;31(5):629-34
 JT RADIOBIOLOGIIA
 LA Rus For
 AB Irradiation conditions in which laboratory animals were kept in experimental laboratories of Chernobyl and Kiev after the accident at the Chernobyl A.P.S. are described. The data are presented on the spectral structural and activity of radionuclides in the diet as well as in the organs and tissues of the animals. The radiation loads have been estimated with regard to an external gamma component and the internal one contributed by the incorporated radionuclides. It has been shown that radiation doses received by the animals during their lifetime due to these contributions do not exceed units of cGy.
 PT JOURNAL ARTICLE
 MJ Accidents
 MJ Environmental Exposure
 MJ Nuclear Reactors
 MJ Power Plants
 MJ Radiation Effects
 MI Air Pollutants Radioactive /Adverse Effects
 MI Air Pollutants Radioactive /Analysis
 MI Animal
 MI Comparative Study
 MI English Abstract
 MI Food Contamination Radioactive
 MI Mice
 MI Mice Inbred C57BL
 MI Radiation Dosage
 MI Radiation Monitoring
 MI Radioisotopes /Analysis
 MI Radioisotopes /Pharmacokinetics
 MI Rats
 MI Ukraine

Item: 49

UI 92080757
 TI [Frequency and induction of mutation]
 SO Tanpakushitsu Kakusan Koso 1991 Oct;36(13):2078-85
 JT TANPAKUSHITSU KAKUSAN KOSO. PROTEIN, NUCLEIC ACID, ENZYME
 LA Jpn For
 PT JOURNAL ARTICLE

MJ Mutation
MI Cells Cultured
MI Mutagens /Pharmacology
MI Radiation Effects

Item: 50

UI 92087581
AU Cordt-Riehle I
TI Comments on radiation dosimetry and linear energy transfer.
SO Soz Praventivmed 1991;36(4-5):222-4
JT SOZIAL- UND PRAVENTIVMEDIZIN
AD Institute of Radiation Biology, University of Zurich.
LA Eng
AB The quantification of the physical effects of ionizing radiation in human tissue is the basis of risk assessment. This quantification results from determination of kerma or absorbed dose. The procedure for the absolute determination of absorbed dose with an ionization chamber is discussed. The biological effects of ionizing radiation are dependent, not only on the absorbed dose but also on a second physical parameter, the linear energy transfer.
PT JOURNAL ARTICLE
MJ Energy Transfer
MJ Radiation Dosage
MJ Radiation Ionizing
MI Human
MI Radiation Effects

Item: 51

UI 92087583
AU Burkart W
TI From energy deposition to cancer.
SO Soz Praventivmed 1991;36(4-5):230-42
JT SOZIAL- UND PRAVENTIVMEDIZIN
AD Institut fur Strahlenhygiene/BfS, Neuherberg/Munchen, Germany.
LA Eng
AB Recent progress in molecular biology, genetics and microdosimetry has considerably increased our knowledge of the mechanisms of radiation-induced carcinogenesis. However, as a result of the complexities involved in the many genetic and epigenetic changes in cells leading to the expression of malignancy only years or even decades after radiation exposure, risk coefficients for the quantification of health detriment still have to be derived largely from epidemiological data and animal studies. On the other hand, improved understanding of molecular and cellular mechanisms is increasingly important in testing and refuting hypotheses about the relative carcinogenic potential of different radiation qualities and dose rates, and of low-level exposures.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL

- MJ Radiation Effects
- MI Adaptation Biological /Radiation Effects
- MI Alpha Particles
- MI Animal
- MI Cell Transformation Neoplastic /Radiation Effects
- MI Dose-Response Relationship, Radiation
- MI DNA /Radiation Effects
- MI Energy Transfer
- MI Human
- MI Models Biological
- MI Neoplasms, Radiation-Induced /Etiology
- MI Radiation Dosage
- MI Time Factors

Item: 52

- UI 92087589
- AU Cardis E
- AU Est`eve J
- TI Epidemiological designs in radioepidemiological research.
- SO Soz Praventivmed 1991;36(4-5):279-85
- JT SOZIAL- UND PRAVENTIVMEDIZIN
- AD International Agency for Research on Cancer, Lyon, France.
- LA Eng
- AB Most of the information currently available on radiation effects comes from the observation of individuals who received high doses, either from one acute exposure or a series of exposures. Because of the uncertainties in extrapolating risks from these studies to the exposure circumstances of most cancers today (in particular, low-level environmental exposure), direct epidemiologic studies of populations receiving low doses chronically are needed. The effects which we want to quantify are likely to be small, however, and extreme care must therefore be put into the design of such studies if they are to be informative for risk assessment purposes. The areas of particular importance in designing risk assessment studies are reviewed. The advantages and limitations of various epidemiological study designs, and the problems and importance of dosimetry are discussed. Examples from the recent epidemiological literature are presented to illustrate the discussion.
- PT JOURNAL ARTICLE
- MJ Epidemiologic Methods
- MJ Radiation Effects
- MJ Research Design
- MI Case-Control Studies
- MI Cohort Studies
- MI Ecology
- MI Environmental Exposure
- MI Human
- MI Radiation Dosage
- MI Radioactive Pollutants

Item: 53

UI 92106266
TI A review of forty-five years study of Hiroshima and Nagasaki atomic bomb survivors.
SO J Radiat Res (Tokyo) 1991 Mar;32 Suppl:1-412
JT JOURNAL OF RADIATION RESEARCH
LA Eng
PT OVERALL
MJ Nuclear Warfare
MJ Radiation Effects
MI Human
MI Japan

Item: 54

UI 92115138
AU Proietti A
AU Murer B
AU Mureto P
AU Andreani M
AU Lucarelli G
AU Di Pietrantonj F
TI [Biologic effects of total body irradiation with single dose administered with various dose-rate]
SO Minerva Med 1991 Nov;82(11):723-31
JT MINERVA MEDICA
AD Ospedale Regionale, Torrette di Ancona, Divisione di Radioterapia, Universit`a di Ancona.
LA Ita For
AB Total body irradiation (TBI) is used in conditioning regimens prior to bone marrow transplantation (BMT) in haematologic diseases to achieve the objective of eradicating bone marrow stem cells. The dose deliverable to the whole body is limited by the radiation tolerance of the normal tissues, especially of the lung, which is the major dose limiting organ because of the high incidence of interstitial pneumonia. The dose rate is important to successfully affect the therapeutic ratio of TBI and BMT; two different dose-rate schedules have been compared to define radiation damages in all tissues. Twenty mini-pigs were lethally irradiated, TBI was performed with 750 cGy total dose, but with two different midplane dose rates: a low dose rate (LDR) of 5 cGy/min and a quite high dose rate (HDR) of 25 cGy/min. In mini-pigs lethally irradiated with HDR, microscopic examination showed severe hemorrhagic changes in bone marrow, lymphonodes, lung parenchyma and other tissues, more prominent than in LDR mini-pigs. Hystologic pictures showed moderate changes in kidney and liver parenchyma, in thyroid and brain tissue both in HDR and in LDR group. Tissue radiation damages are related not only to TBI total dose, but to the dose-rate; the selection of a low dose-rate is useful to reduce radiation cell killing by accumulation of lethal injury to normal tissues, especially to the lung.
PT JOURNAL ARTICLE
MJ Radiation Dosage

MJ Whole-Body Irradiation /Methods
MI Animal
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Radiation Effects
MI Swine
MI Swine Miniature

Item: 55

UI 92124828
AU Baraboi VA
TI [The characteristics of the biological action of ionizing radiation at low doses]
SO Vrach Delo 1991 Jul;(7):111-2
JT VRACHEBNOE DELO
LA Rus For
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Accidents
MI Dose-Response Relationship, Radiation
MI Human
MI Nuclear Reactors
MI Power Plants
MI Ukraine

Item: 56

UI 92205960
AU Petriuk SE
TI [The combined action of external and internal sources of ionizing radiation on the body]
SO Vrach Delo 1991 Oct;(10):20-3
JT VRACHEBNOE DELO
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI Gamma Rays /Adverse Effects
MI Human
MI Neoplasms, Radiation-Induced /Etiology
MI Radiation Injuries /Etiology
MI Radiation Injuries Experimental /Etiology
MI Radioactive Fallout /Adverse Effects
MI Radioisotopes /Adverse Effects

Item: 57

UI 92241684
AU Ovsiannikov AS

AU Murdzhikneli KG
 TI [Morbidity based on medical examination data on x-ray apparatus
 electromechanical engineers performing repair and adjustment operations]
 SO Gig Tr Prof Zabol 1991;(11):11-2
 JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA
 LA Rus For
 AB The article contains results of a study of the morbidity rates among
 electricians dealing with servicing medical X-ray equipment. The
 exposure dosages were at 15 +/- mGr/year. With a considerably low
 prevalence of any specific chronic pathology on the whole, the
 professional groups exhibited higher morbidity rates caused by
 hypertension, duodenal ulcers and hepatic cirrhosis. No specific
 changes in the blood indices were found. The contributors proposed a
 set of preventive measures, including extensive medical examinations to
 reveal hypertension initial stages, along with health-related measures
 towards improvement of the occupational and social conditions.
 PT JOURNAL ARTICLE
 MJ Occupational Diseases /Epidemiology
 MJ Technology Radiologic /Instrumentation
 MI Chronic Disease
 MI English Abstract
 MI Human
 MI Incidence
 MI Male
 MI Occupational Diseases /Diagnosis
 MI Occupational Exposure /Adverse Effects
 MI Radiation Effects
 MI Technology Radiologic /Statistics & Numerical Data
 MI USSR /Epidemiology

Item: 58

UI 92246767
 AU Zaider M
 TI Charged-particle transport in the condensed phase.
 SO Basic Life Sci 1991;58:137-60; discussion 160-2
 JT BASIC LIFE SCIENCES
 AD Center for Radiological Research, College of Physicians & Surgeons of
 Columbia University, New York.
 LA Eng
 AB Traditionally, studies of the biological effects of ionizing radiation
 have rested on the triumvirate: (gas-phase) radiation physics,
 biophysical modeling, and radiation biology. Two technical
 developments, the advent of supercomputing as a routine tool in quantum
 solid-state material science and molecular dynamics on the one hand, and
 molecular biology on the other hand, have created--perhaps for the first
 time--the possibility of directly linking a more realistic description of
 the radiation field to observable events at biomolecular level. It also
 becomes increasingly clear that the identification of specific molecular
 targets imposes a challenge to the radiation physics community to be
 equally specific in treating the energy--deposition stage of radiation

action. In this paper: a) I review--and exemplify with results from our own work--the current status in Monte Carlo simulation of gas-phase material (particle transport and stochastic chemistry); b) examine the link between these essentially geometric representations of the track and the concept of "spatial distribution of energy deposition," a staple in radiation modeling; c) advocate an effort towards developing conceptually and calculationally, the field of solid-state microdosimetry; and d) describe methods based on semi-empirical Hamiltonians or quasi-particle techniques for obtaining the frequency-dependent and wave-vector-dependent dielectric response function for biomolecular crystalline systems, which are the main ingredients for describing charged-particle transport.

PT JOURNAL ARTICLE
 MJ Radiation Effects
 MJ Radiation Ionizing
 MI Mathematics
 MI Models Theoretical
 MI Monte Carlo Method
 MI Support, U.S. Gov't, Non-P.H.S.
 MI Support U S Govt P H S

Item: 59

UI 92246768
 AU Katz R
 AU Varma MN
 TI Radial distribution of dose.
 SO Basic Life Sci 1991;58:163-79; discussion 179-80
 JT BASIC LIFE SCIENCES
 AD University of Nebraska, Lincoln.
 LA Eng
 AB The radial distribution of dose about the path of a heavy ion, principally from delta rays, is one of the central contributions of atomic physics to the systematization of high LET radiation effects in condensed matter, whether the detection arises in chemical, physical, or biological systems. In addition to the radial distribution of dose, we require knowledge of the response of the system to X-rays or gamma-rays or to beams of energetic electrons such that the electron slowing-down spectra from these radiations can approximate the slowing-down spectra from delta rays even at different radial distances from the ion's path. A combination of these data enables us to calculate the action cross sections ion bombardments in all detectors for which this information is available. These cross sections are indispensable for the evaluation of effects caused by high LET radiations. In this paper we focus attention principally on the calculation and measurement of the radial distribution of dose and on their limitations.

PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Radiation Effects
 MI Enzymes /Radiation Effects

MI Gamma Rays
MI Mathematics
MI Models Theoretical
MI Support, U.S. Gov't, Non-P.H.S.
MI Viruses /Radiation Effects B4 B4.0
MI X Rays

Item: 60

UI 92246774
AU Braby LA
TI Phenomenological models.
SO Basic Life Sci 1991;58:339-61; discussion 361-5
JT BASIC LIFE SCIENCES
AD Pacific Northwest Laboratory, Richland, Washington.
LA Eng
AB The biological effects of ionizing radiation exposure are the result of a complex sequence of physical, chemical, biochemical, and physiological interactions which are modified by characteristics of the radiation, the timing of its administration, the chemical and physical environment, and the nature of the biological system. However, it is generally agreed that the health effects in animals originate from changes in individual cells, or possibly small groups of cells, and that these cellular changes are initiated by ionizations and excitations produced by the passage of charged particles through the cells. One way to begin a search for an understanding of health effects of radiation is through the development of phenomenological models of the response. Many models have been presented and tested in the slowly evolving process of characterizing cellular response. Different phenomena (LET dependence, dose rate effect, oxygen effect etc.) and different end points (cell survival, aberration formation, transformation, etc.) have been observed, and no single model has been developed to cover all of them. Instead, a range of models covering different end points and phenomena have developed in parallel. Many of these models employ similar assumptions about some underlying processes while differing about the nature of others. An attempt is made to organize many of the models into groups with similar features and to compare the consequences of those features with the actual experimental observations. It is assumed that by showing that some assumptions are inconsistent with experimental observations, the job of devising and testing mechanistic models can be simplified.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ DNA /Radiation Effects
MJ DNA Damage
MJ Models Biological
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI Energy Transfer

MI Support, U.S. Gov't, Non-P.H.S.

Item: 61

UI 92246775

AU Curtis SB

TI Mechanistic models.

SO Basic Life Sci 1991;58:367-82; discussion 382-6

JT BASIC LIFE SCIENCES

AD Cell and Molecular Biology Division, Lawrence Berkeley Laboratory,
University of California, Berkeley.

LA Eng

AB Several models and theories are reviewed that incorporate the idea of radiation-induced lesions (repairable and/or irreparable) that can be related to molecular lesions in the DNA molecule. Usually the DNA double-strand or chromatin break is suggested as the critical lesion. In the models, the shoulder on the low-LET survival curve is hypothesized as being due to one (or more) of the following three mechanisms: (i) "interaction" of lesions produced by statistically independent particle tracks, (ii) nonlinear (i.e., linear-quadratic) increase in the yield of initial lesions, and (iii) saturation of repair processes at high dose. Comparisons are made between the various approaches. Several significant advances in model development are discussed; in particular, a description of the matrix formulation of the Markov versions of the repair-misrepair (RMR) and lethal-potentially-lethal (LPL) models is given. The more advanced theories have incorporated statistical fluctuations in various aspects of the energy-loss and lesion-formation process. An important direction is the inclusion of physical and chemical processes into the formulations by incorporating relevant track structure theory (Monte Carlo track simulations) and chemical reactions of radiation-induced radicals. At the biological end, identification of repair genes and how they operate, as well as a better understanding of how DNA misjoinings lead to lethal chromosome aberrations, are needed for appropriate inclusion into the theories. More effort is necessary to model the complex end point of radiation-induced carcinogenesis.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ DNA /Radiation Effects

MJ DNA Damage

MJ Models Biological

MJ Radiation Effects

MI Animal

MI Cell Survival /Radiation Effects

MI Mathematics

MI Support, U.S. Gov't, Non-P.H.S.

Item: 62

UI 92312421

AU Dederich DN

TI Laser/tissue interaction.
 SO Alpha Omegan 1991;84(4):33-6
 JT ALPHA OMEGAN
 AD University of Pittsburgh, School of Dental Medicine.
 LA Eng
 AB When laser light impinges on tissue, it can reflect, scatter, be absorbed, or transmit to the surrounding tissue. Absorption controls to a great degree the extent to which reflection, scattering and transmission occur, and wavelength is the primary determinant of absorption. The CO₂ laser is consistently absorbed by most materials and tissues and the Nd-YAG laser wavelength is preferentially absorbed in pigmented tissues. The factors which determine the initial tissue effect include the laser wavelength, laser power, laser waveform, tissue optical properties, and tissue thermal properties. There are almost an infinite number of combinations of these factors possible, many of which would result in unacceptable damage to the tissues. This underscores the need to thoroughly test any particular combination of these factors on the conceptual, in-vitro, and in-vivo level before a treatment is offered.
 PT JOURNAL ARTICLE
 MJ Lasers /Adverse Effects
 MJ Radiation Injuries /Etiology
 MI Human
 MI Radiation Effects

Item: 63

UI 92373657
 AU Chen D
 AU Wei L
 TI Chromosome aberration, cancer mortality and hormetic phenomena among inhabitants in areas of high background radiation in China.
 SO J Radiat Res (Tokyo) 1991 Dec;32 Suppl 2:46-53
 JT JOURNAL OF RADIATION RESEARCH
 AD High Background Radiation Research Group, Beijing, China.
 LA Eng
 AB The respective average annual doses are about 330 and 110 mR/yr, in the high background radiation areas (HBRA) in Yangjiang County and the control areas (CA) in Enping and Taishan Counties. Both the HBRA and CA are in Guangdong Province which borders the South China Sea. The frequencies of chromosome aberration in circulating lymphocytes were examined for persons residing in the HBRA and CA. Those in the HBRA had increased frequencies of detectable abnormalities in stable aberrations (translocations and inversions) and unstable aberrations (dicentric and rings). Previous reports have shown that when samples of circulating lymphocytes taken from inhabitants were tested in vitro for mitotic responses to phytohemagglutinin (PHA) and for the degree of unscheduled DNA synthesis (UDS) induced by UV-irradiation, there were higher responsiveness and UDS rates for those in the HBRA than in the CA. In contrast, mortality from all cancers and those from leukemia, breast and lung cancers that are inducible by radiation was not higher in the HBRA.

Although the differences in the cancer mortality rates for the HBRA and CA are not significant, the findings are compatible with the assumption that the lower mortality from cancer in the HBRA is the result of the hormetic effects of the three-fold higher dose rate of background radiation in that areas. This assumption requires further study.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Background Radiation
MJ Chromosome Aberrations
MJ Neoplasms /Mortality C4 C4.0
MI Adolescence
MI Adult
MI Age 18 and under
MI China /Epidemiology
MI Female
MI Human
MI Male
MI Middle Age
MI Radiation Dosage
MI Radiation Effects

Item: 64

UI 92098347
AU Turner JE
AU Bolch WE
AU Yoshida H
AU Jacobson KB
AU Wright HA
AU Hamm RN
AU Ritchie RH
AU Klots CE
TI Radiation damage to a biomolecule: new physical model successfully traces molecular events.
SO Int J Rad Appl Instrum [A] 1991;42(10):995-1001
JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART A, APPLIED RADIATION AND ISOTOPES
AD Health and Safety Research Division, Oak Ridge National Laboratory, TN 37831-6123.
LA Eng
AB For the first time, a complete computer simulation of physical and chemical reactions at the molecular level has been used to calculate the yield of a chemical species resulting from irradiation of a biological molecule in aqueous solution. Specifically, when a solution of glycylglycine is irradiated anaerobically, an ammonia molecule is released by the action of a hydrated electron, which is produced by irradiation of water. In the computations, Monte Carlo techniques are used to simulate the statistical progression of molecular events as they are assumed to occur. These include the initial physical ionization and excitation of water molecules along a particle track in the liquid; the

subsequent formation of free radicals and other species: and the random diffusion and chemical reactions of the species with each other, the solvent, and solute molecules. We have calculated and measured the yield of ammonia from irradiation of glycylglycine with 250 kVp x-rays as a function of glycylglycine concentration between 0.01 and 1.2 M. Excellent agreement is obtained between predicted and measured results. The literal simulation of events, combined with specific experimental measurements, offers a powerful new tool for studying mechanisms of radiation action and damage at the molecular level.

PT JOURNAL ARTICLE
MJ Computer Simulation
MJ Radiation Effects
MI Ammonia
MI Anaerobiosis
MI Glycylglycine /Radiation Effects
MI Solutions
MI Support, U.S. Gov't, Non-P.H.S.
MI Water

Item: 65

UI 91231813
AU Meger Wells CM
AU Pearson DW
AU De Luca PM Jr
AU Wells GM
AU Cerrina F
AU Kennan WS
AU Gould MN
TI Synchrotron-produced ultrasoft X-rays: a tool for testing biophysical models of radiation action.
SO Int J Radiat Biol 1991 Apr;59(4):985-96
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Department of Medical Physics, University of Wisconsin-Madison 53706.
LA Eng
AB Ultrasoft X-rays are useful for mechanistic studies of ionizing radiation damage in living cells due to the localized nature of their energy depositions. To date radiobiology experiments in this energy region have relied on characteristic X-rays (mainly Alk and Ck) from X-ray tubes. However, limitations in the photon intensity and the available energies from X-ray tube sources prevent a definitive characterization of the relationship between photon energy and biological damage. Synchrotron radiation has the potential to avoid these limitations, since it produces X-rays with high intensity over a continuous spectrum. We have established a synchrotron-based system for radiation biology studies using the ES-0 exposure station of the Center for X-ray Lithography at the University of Wisconsin Synchrotron Radiation Center storage ring, Aladdin. A characterization of the system including spectral and intensity properties of the photon beam is presented. The first mammalian cell survival curve for synchrotron-produced ultrasoft X-rays was generated and is presented.

Cell survival curves of C3H/10T 1/2 cells using synchrotron radiation of 1.48 keV agree with previous data using Alk X-rays (1.49 keV). An RBE of 1.47 +/- 0.30 at the 10% survival level was measured with reference to 250 kVp X-rays.

PT JOURNAL ARTICLE
MJ Models Biological
MJ Particle Accelerators
MJ Radiation Effects
MI Animal
MI Biophysics
MI Cell Line
MI Cell Survival /Radiation Effects
MI Cells Cultured /Radiation Effects
MI Comparative Study
MI Mice
MI Mice Inbred C3H
MI Radiation
MI Radiometry /Instrumentation
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S

Item: 66

UI 92013516
AU Nikjoo H
AU Goodhead DT
AU Charlton DE
AU Paretzke HG
TI Energy deposition in small cylindrical targets by monoenergetic electrons.
SO Int J Radiat Biol 1991 Nov;60(5):739-56
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Medical Research Council Radiobiology Unit, Didcot, Oxon, UK.
LA Eng
AB Calculations of energy deposition in cylindrical target volumes of diameter and height 1-100 nm, including those similar to the dimensions of biological molecules and structures such as DNA, nucleosomes and chromatin fibre, have been made. The calculations used the Monte Carlo track structure program MOCA8B for electrons of initial energy 0.1-100 keV. Details of the calculation are presented, as well as a selection of results. The frequency distributions of energy deposition events per gray per target, placed at random in a homogeneous aqueous medium, are given for uniform irradiation with monoenergetic electrons of various energies. The frequency distributions have been used to predict the initial biophysical parameters such as relative effectiveness for initial damage. These suggest that the final biological effects which depend on complex local damage may show substantial variations in biological effectiveness for different low linear energy transfer radiations, whereas those that depend on simple local damage may not.
PT JOURNAL ARTICLE

MJ Electrons
MJ Radiation Effects
MI Chromatin /Radiation Effects
MI DNA /Radiation Effects
MI Energy Transfer
MI Models Biological
MI Monte Carlo Method
MI Nucleosomes /Radiation Effects
MI Relative Biological Effectiveness
MI Support, Non-U.S. Gov't

Item: 67

UI 91124100
AU Macklis RM
AU Beresford B
TI Radiation hormesis.
SO J Nucl Med 1991 Feb;32(2):350-9
JT JOURNAL OF NUCLEAR MEDICINE
AD Dept. of Radiation Therapy, Harvard Medical School, Boston, MA 02115.
LA Eng
AB "Radiation hormesis" is the name given to the putative stimulatory effects of low level ionizing radiation (generally in the range of 1-50 cGy of low-LET radiation). Based on historical and pharmacologic principles reminiscent of some of the major tenets of homeopathy, most of these effects are now generally ascribed to protective feedback systems that, upon exposure to low concentrations of toxins, proceed to stimulate metabolic detoxification and repair networks. The activation of these networks may then result in net beneficial effects on the cell, organism or species. Discussions of possible stimulatory effects of low levels of ionizing radiation have recently become entangled with the separate but related question of whether a threshold dose level exists on the radiotoxicologic dose-response curve. This review summarizes some of the relevant historical and scientific data bearing on the question of radiation hormesis. We find the data in support of most of the hormesis postulates intriguing but inconclusive.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Human
MI Physical Stimulation
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S

Item: 68

UI 91141165
AU Vasilenko IIa
TI [Small doses of ionizing radiation]
SO Med Radiol (Mosk) 1991;36(1):48-51

JT MEDITSINSKAIA RADIOLOGIIA
 LA Rus For
 PT JOURNAL ARTICLE
 MJ Radiation Dosage
 MJ Radiation Effects
 MI Abnormalities, Radiation-Induced /Etiology
 MI Abnormalities, Radiation-Induced /Prevention & Control
 MI Accidents
 MI Adult
 MI Animal
 MI Female
 MI Human
 MI Infant Newborn
 MI Male
 MI Neoplasms, Radiation-Induced /Etiology
 MI Neoplasms, Radiation-Induced /Prevention & Control
 MI Nuclear Reactors
 MI Pregnancy
 MI Radiation Injuries /Etiology
 MI Radiation Injuries Experimental /Etiology
 MI Radiation Ionizing
 MI Rats

Item: 69

UI 91180311
 AU Lobachevskii PN
 AU Fominykh EV
 TI [Calculation of the radiation-induced delay in cell division during a study of the induction of chromosome aberrations (the theoretical and experimental bases of the approach)]
 SO Radiobiologiia 1991 Jan-Feb;31(1):59-64
 JT RADIOBIOLOGIIA
 LA Rus For
 AB The possible influence of a radiation-induced delay of cell division on the yield of chromosome aberrations has been analyzed theoretically. The analysis is based on the assumption that the delay is caused by the damages that are realized in the mitosis as chromosome aberrations. It has been shown that the distributions of cells, that are registered by the number of chromosome aberrations, are a function of time of cell fixation and may substantially differ from actual disturbance. There is a correlation between the registered and actual disturbances which is determined by the kinetics of the first mitosis of nonirradiated cells and the degree of the radiation-induced division delay. Some qualitative sequels of the proposed model are in agreement with the experimental data.
 PT JOURNAL ARTICLE
 MJ Chromosome Aberrations
 MJ Radiation Effects
 MI Animal
 MI Cell Division /Radiation Effects

MI English Abstract
MI Mathematics
MI Methods
MI Models Biological
MI Relative Biological Effectiveness
MI Time Factors

Item: 70

UI 91202518
AU Echlin P
TI Ice crystal damage and radiation effects in relation to microscopy and analysis at low temperatures.
SO J Microsc 1991 Jan;161 (Pt 1):159-70
JT JOURNAL OF MICROSCOPY
AD Botany School, University of Cambridge, U.K.
LA Eng
AB There are several limitations to the low-temperature techniques which are currently being used for the preparation, examination and analysis of biological and organic samples by means of high-energy beam instrumentation. The low thermal conductivity of samples and the inadequacy of rapid cooling techniques means that, with the exception of thin-film suspensions and the surface of impact-cooled bulk specimens which may be vitrified, ice crystals of varying sizes will be present in nearly all samples which are quench cooled. Data are presented which indicate the depth to which adequate cryo-fixation may be achieved for both morphological and analytical studies. Although dynamic processes may be time resolved in the outer parts of quench-cooled samples, the decreased freezing rate below the surface makes resolution of these processes much less certain. The quality of information which may be obtained from quench-cooled samples is limited by radiation damage. Low-dose microscopy of vitrified thin-film suspensions of macromolecules continues to provide valid structural information at the molecular level. The increased doses needed for X-ray microanalysis present serious problems with the high spatial resolution analysis of thin frozen-hydrated sections although much less damage is observed in dried samples. A case is presented for using the outer fracture faces of frozen-hydrated bulk samples for low-resolution analysis of cells and tissues.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Electron Probe Microanalysis /Methods
MJ Frozen Sections
MJ Microscopy Electron /Methods
MJ Microscopy Electron Scanning /Methods
MI Freeze Fracturing
MI Radiation Effects

Item: 71

UI 91219572

AU Berenbaum MC
TI Concepts for describing the interaction of two agents [letter; comment]
SO Radiat Res 1991 May;126(2):264-8
JT RADIATION RESEARCH
LA Eng
PT COMMENT
PT LETTER
MJ Drug Interactions
MJ Radiation Effects
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S

Item: 72

UI 91231813
AU Meger Wells CM
AU Pearson DW
AU De Luca PM Jr
AU Wells GM
AU Cerrina F
AU Kennan WS
AU Gould MN
TI Synchrotron-produced ultrasoft X-rays: a tool for testing biophysical models of radiation action.
SO Int J Radiat Biol 1991 Apr;59(4):985-96
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Department of Medical Physics, University of Wisconsin-Madison 53706.
LA Eng
AB Ultrasoft X-rays are useful for mechanistic studies of ionizing radiation damage in living cells due to the localized nature of their energy depositions. To date radiobiology experiments in this energy region have relied on characteristic X-rays (mainly Alk and Ck) from X-ray tubes. However, limitations in the photon intensity and the available energies from X-ray tube sources prevent a definitive characterization of the relationship between photon energy and biological damage. Synchrotron radiation has the potential to avoid these limitations, since it produces X-rays with high intensity over a continuous spectrum. We have established a synchrotron-based system for radiation biology studies using the ES-0 exposure station of the Center for X-ray Lithography at the University of Wisconsin Synchrotron Radiation Center storage ring, Aladdin. A characterization of the system including spectral and intensity properties of the photon beam is presented. The first mammalian cell survival curve for synchrotron-produced ultrasoft X-rays was generated and is presented. Cell survival curves of C3H/10T 1/2 cells using synchrotron radiation of 1.48 keV agree with previous data using Alk X-rays (1.49 keV). An RBE of 1.47 +/- 0.30 at the 10% survival level was measured with reference to 250 kVp X-rays.
PT JOURNAL ARTICLE
MJ Models Biological

MJ Particle Accelerators
MJ Radiation Effects
MI Animal
MI Biophysics
MI Cell Line
MI Cell Survival /Radiation Effects
MI Cells Cultured /Radiation Effects
MI Comparative Study
MI Mice
MI Mice Inbred C3H
MI Radiation
MI Radiometry /Instrumentation
MI Support, Non-U.S. Gov't
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S

Item: 73

UI 91239774
AU Kuzin AM
TI [The action of atomic radiation in low doses on the biota]
SO Radiobiologiya 1991 Mar-Apr;31(2):175-9
JT RADIOBIOLOGIYA
LA Rus For
AB The radiobiological studies carried out in conditions of lower and slightly increased natural radiation background have prompted an idea of "low doses" in radiobiology which is proposed for discussion. The author emphasizes that the difference between the leading molecular and cellular mechanisms that come into play under the effect of high- and low-level atomic radiation makes it incorrect to assess the risk from low radiation doses on the basis of the regularities obtained with high doses.
PT JOURNAL ARTICLE
MJ Ecology
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Mammals
MI Radiobiology

Item: 74

UI 91285846
AU Beisel D
TI Response to Hendee's 'Radiation phobia as a culturally mediated reflex' [letter]
SO Health Phys 1991 Jul;61(1):143
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Radiation Effects

MI Human

Item: 75

UI 91289582

AU Kindzel'skii LP

TI [A. N. Kovalenko's article The effect of low doses of ionizing radiation on human health (Vrachebnoe delo, 1990, No. 7)]

SO Vrach Delo 1991 Apr;(4):100-2

JT VRACHEBNOE DELO

LA Rus For

PT JOURNAL ARTICLE

MJ Health Physics

MJ Radiation Effects

MI Accidents

MI Dose-Response Relationship, Radiation

MI Human

MI Nuclear Reactors

MI Power Plants

MI Ukraine

Item: 76

UI 91289583

AU Morozov AM

TI [A. N. Kovalenko's article The effect of low doses of ionizing radiation on human health (Vrachebnoe delo, 1990, No. 2)]

SO Vrach Delo 1991 Apr;(4):102-3

JT VRACHEBNOE DELO

LA Rus For

PT JOURNAL ARTICLE

MJ Health Physics

MJ Radiation Effects

MI Accidents

MI Dose-Response Relationship, Radiation

MI Human

MI Nuclear Reactors

MI Power Plants

MI Ukraine

Item: 77

UI 91302605

AU Belousov VV

TI [The consequences of the destruction of the ozone layer for the biosphere]

SO Izv Akad Nauk SSSR [Biol] 1991 Mar-Apr;(2):242-54

JT IZVESTIIA AKADEMII NAUK SSSR. SERIIA BIOLOGICHESKAIA

LA Rus For

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ Environment

MJ Environmental Exposure /Adverse Effects
MJ Ozone /Radiation Effects
MJ Radiation Effects
MJ Ultraviolet Rays /Adverse Effects
MI Animal
MI Ecology
MI Environmental Microbiology
MI Human
MI Plants /Radiation Effects B6 B6.0
MI Seawater

Item: 78

UI 91310450
AU Scheer J
TI Gould and Goldman: deadly deceit--a defense [letter]
SO Health Phys 1991 Aug;61(2):279-80
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Radiation Effects
MI Human
MI Radiation Dosage

Item: 79

UI 91317268
AU Farman AG
TI Concepts of radiation safety and protection: beyond BEIR V.
SO Dent Assist 1991 Jan-Feb;60(1):11-4
JT DENTAL ASSISTANT
AD University of Louisville School of Dentistry, Kentucky.
LA Eng
AB The publication of an updated report on the biological effects of ionizing radiation (BEIR V) has focused new attention on the potential hazards associated with the use of low doses of ionizing radiation for diagnostic purposes. This article reviews the BEIR V report findings and suggests methods for reducing the risks to dental patients and the operators of dental x-ray equipment.
PT JOURNAL ARTICLE
MJ Radiation Protection
MJ Radiography Dental
MI Human
MI Occupational Exposure
MI Radiation Dosage
MI Radiation Effects

Item: 80

UI 91324940
TI VDT exposure and pregnant workers.
SO J Occup Med 1991 Jun;33(6):675-6
JT JOURNAL OF OCCUPATIONAL MEDICINE

LA Eng
 PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Computer Terminals
 MJ Pregnancy Complications /Etiology
 MJ Radiation
 MJ Radiation, Non-Ionizing /Adverse Effects
 MI Female
 MI Human
 MI Pregnancy
 MI Radiation Effects

Item: 81

UI 91334927
 AU Wambersie A
 TI [Radiology and radiation protection in dental medicine. 1: Biological effects resulting from exposure to ionizing radiation]
 SO Rev Belge Med Dent 1991;46(1):9-29
 JT REVUE BELGE DE MEDECINE DENTAIRE
 AD Unit'e de Radiobiologie et de Radioprotection UCL Cliniques Universitaires St. Luc, Bruxelles.
 LA Fre For
 AB The different types of biological effects produced by ionizing radiations are reviewed. Among the early effects following an acute exposure, the bone marrow syndrome and the intestinal syndrome are briefly described. They are unlikely to appear in the current conditions encountered in dental radiology. As far as skin exposure is concerned (e.g. fingers, hands), acute reactions (moist desquamation, ulceration, etc.) require high doses which are encountered only in accidental conditions. However, chronic dermatitis after repeated low dose exposure is one of the major risks in dental radiology (even without previous acute lesions), if the recommendations of radioprotection are not followed. The danger is ultimately the transformation into a radio-induced skin cancer. Among the late effects, after chronic exposure at low doses, cancer induction and the genetic effects are the most important. The risk coefficient for cancer induction is expressed by the number of lethal cancers induced per unit dose. In his last report (1988), the UNSCEAR assessed the risk coefficient between 4.5 and 7% for an absorbed dose of 1 Gy (low-LET radiation, high dose delivered at high dose rate). A low doses and low dose rates (X-and gamma rays), the UNSCEAR recommends to reduce the above risk coefficients by a factor between 2 and 10. The risk coefficient at low doses is difficult to evaluate since the rate of radio-induced cancers is small compared to the spontaneous cancer incidence. The risk of a severe genetic effect is about 1/3-1/4 of the risk of lethality from radio-induced cancer. Finally, the characteristics of the stochastic and non-stochastic effects are described. The acute effects, the late radiodermatitis and the cataract are examples of non-stochastic effects, while cancer induction and the genetic effect are stochastic effects. In the

Appendix, the most important quantities and units, used in radiation protection, are presented.

PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Protection
MJ Radiography Dental /Adverse Effects
MI Bone Marrow /Radiation Effects
MI Embryo /Radiation Effects
MI English Abstract
MI Gastrointestinal System /Radiation Effects
MI Human
MI Neoplasms, Radiation-Induced /Etiology
MI Radiodermatitis /Etiology

Item: 82

UI 91343717
AU Kaul A
TI [Low radiation doses: risks and benefits]
SO Radiologe 1991 May;31(5):225-6
JT RADIOLOGE
AD Bundesamt fur Strahlenschutz, Salzgitter.
LA Ger For
PT JOURNAL ARTICLE
MJ Radiation Dosage
MJ Radiation Effects
MI Human
MI Risk

Item: 83

UI 91356935
AU Zhloba AA
AU Sevan'kaev AV
TI [The identification of chromosome aberrations reflecting genome instability in the progeny of irradiated cells]
SO Dokl Akad Nauk SSSR 1991;316(5):1239-44
JT DOKLADY AKADEMII NAUK SSSR
LA Rus For
PT JOURNAL ARTICLE
MJ Chromosome Aberrations /Genetics
MJ Genomic Library
MJ Radiation Effects
MI Animal
MI Bromodeoxyuridine /Pharmacology
MI Cells Cultured /Drug Effects
MI Cells Cultured /Radiation Effects
MI Cells Cultured /Ultrastructure
MI Cricetulus
MI Hamsters
MI Mitosis /Drug Effects
MI Mitosis /Radiation Effects

MI Sister Chromatid Exchange /Drug Effects
MI Sister Chromatid Exchange /Radiation Effects
MI Time Factors

Item: 84

UI 91360760
AU Ruda VP
AU Kuzin AM
TI [The occurrence of hormesis during gamma-irradiation of developing rat pups]
SO Radiobiologiya 1991 May-Jun;31(3):345-7
JT RADIOBIOLOGIYA
LA Rus For
AB Development of rat pups was shown to accelerate (body mass made up 121% of control) after gamma-irradiation on day 21 of the postnatal development (2.88 cGy, dose-rate of 0.12 cGy/h). Higher cumulative doses (14.4 and 144 cGy) did not influence the body mass growth, and inhibition was only caused by doses exceeding 150 cGy.
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Animal
MI Animals Newborn /Growth & Development
MI Body Weight /Radiation Effects
MI Cesium Radioisotopes
MI English Abstract
MI Gamma Rays
MI Male
MI Physical Stimulation

Item: 85

UI 91377119
AU Ian'shin LA
TI [The combined action on the body of ionizing and nonionizing electromagnetic radiations (a review of the literature)]
SO Voen Med Zh 1991 May;(5):53-6
JT VOENNO-MEDITSINSKII ZHURNAL
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI Microwaves
MI Radiation Injuries Experimental /Etiology
MI Radiation Protection
MI Radiation Ionizing
MI Radiation, Non-Ionizing

Item: 86

UI 92013516
 AU Nikjoo H
 AU Goodhead DT
 AU Charlton DE
 AU Paretzke HG
 TI Energy deposition in small cylindrical targets by monoenergetic electrons.
 SO Int J Radiat Biol 1991 Nov;60(5):739-56
 JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
 AD Medical Research Council Radiobiology Unit, Didcot, Oxon, UK.
 LA Eng
 AB Calculations of energy deposition in cylindrical target volumes of diameter and height 1-100 nm, including those similar to the dimensions of biological molecules and structures such as DNA, nucleosomes and chromatin fibre, have been made. The calculations used the Monte Carlo track structure program MOCA8B for electrons of initial energy 0.1-100 keV. Details of the calculation are presented, as well as a selection of results. The frequency distributions of energy deposition events per gray per target, placed at random in a homogeneous aqueous medium, are given for uniform irradiation with monoenergetic electrons of various energies. The frequency distributions have been used to predict the initial biophysical parameters such as relative effectiveness for initial damage. These suggest that the final biological effects which depend on complex local damage may show substantial variations in biological effectiveness for different low linear energy transfer radiations, whereas those that depend on simple local damage may not.
 PT JOURNAL ARTICLE
 MJ Electrons
 MJ Radiation Effects
 MI Chromatin /Radiation Effects
 MI DNA /Radiation Effects
 MI Energy Transfer
 MI Models Biological
 MI Monte Carlo Method
 MI Nucleosomes /Radiation Effects
 MI Relative Biological Effectiveness
 MI Support, Non-U.S. Gov't

Item: 87

UI 92018323
 AU Barendsen GW
 TI [Radiation effects and protection standards]
 SO Ned Tijdschr Geneesk 1991 Aug 10;135(32):1428-30
 JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE
 AD Academisch Medisch Centrum, Laboratorium voor Radiobiologie, Amsterdam.
 LA Dut For
 PT JOURNAL ARTICLE
 MJ Radiation Effects
 MJ Radiation Protection
 MI Human

MI Maximum Permissible Exposure Level
MI Neoplasms, Radiation-Induced /Etiology
MI Radioactive Fallout
MI Reference Values

Item: 88

UI 92019286
AU King RR
TI Health effects of visual display terminals.
SO Nurs Manage 1991 Oct;22(10):61-4
JT NURSING MANAGEMENT
LA Eng
PT JOURNAL ARTICLE
MJ Computer Terminals
MJ Occupational Exposure /Adverse Effects
MI Human
MI Human Engineering
MI Occupational Exposure /Prevention & Control
MI Radiation Effects
MI Stress /Etiology
MI Stress /Prevention & Control

Item: 89

UI 92049850
AU Barendsen GW
TI [Ionizing irradiation and radioactive agents in the environment: effects and dose limitations]
SO Ned Tijdschr Geneeskde 1991 Oct 5;135(40):1865-8
JT NEDERLANDS TIJDSCHRIFT VOOR GENEESKUNDE
AD Universiteit van Amsterdam, Laboratorium voor Radiobiologie.
LA Dut For
PT JOURNAL ARTICLE
MJ Environmental Pollutants /Adverse Effects
MJ Radioactive Pollutants /Adverse Effects
MI Human
MI Maximum Permissible Exposure Level
MI Radiation Dosage
MI Radiation Effects
MI Risk Factors

Item: 90

UI 92053028
AU Vorobtsova IE
TI [Somatic and genetic consequences of radiation effects (a comparative aspect)]
SO Radiobiologiya 1991 Jul-Aug;31(4):568-70
JT RADIOBIOLOGIYA
LA Rus For
PT JOURNAL ARTICLE
MJ Radiation Effects

MJ Radiation Genetics
 MI Abnormalities, Radiation-Induced /Etiology
 MI Adult
 MI Animal
 MI Cells /Radiation Effects A11 A11.0
 MI Cells Cultured
 MI Comparative Study
 MI English Abstract
 MI Female
 MI Fertility /Radiation Effects
 MI Human
 MI Infant
 MI Infant Mortality
 MI Infant Newborn
 MI Male
 MI Mutagenesis
 MI Neoplasms, Radiation-Induced /Etiology
 MI Pregnancy
 MI Radiation Injuries /Etiology
 MI Radiation Ionizing

Item: 91

UI 92053367
 AU Murphy PH
 TI Acceptable risk as a basis for regulation.
 SO Radiographics 1991 Sep;11(5):889-97
 JT RADIOGRAPHICS
 AD Nuclear Medicine Service, St Luke's Episcopal Hospital, Houston, TX 77030.
 LA Eng
 AB In recent years, guidelines for radiation protection have increasingly been based on estimates of the risks associated with radiation exposures and judgments regarding acceptable levels of risk. This leads to a more objective basis for regulations if the risk estimates are accurate. However, as enthusiasm for this approach expands, the large uncertainties in the risk estimates are often overlooked, and unreasonable, restrictive applications are possible. Several recent examples of radiation protection guidelines illustrate the risk-based emphasis underlying today's radiation safety philosophy.
 PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Radiation Protection
 MI Adult
 MI Female
 MI Human
 MI Male
 MI Middle Age
 MI Radiation Dosage
 MI Radiation Effects

MI Risk Factors

Item: 92

UI 92057183

AU Rudnev MI

TI [Directives on bioeffects of the action of low levels of radiation]

SO Vestn Akad Med Nauk SSSR 1991;(8):60-1

JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR

LA Rus For

AB Literature data during 1980-1989 and own studies carried out at the Institute of Experimental Radiology, All-Union Research Center of Radiation Medicine, USSR AMS, summarized in the paper, describe three types of biological responses (increase, decrease and no response) to low-level ionizing radiation up to 100 Rem. It is shown that pathological changes in the biosystems exposed to radiation are detectable with sensitive techniques, the responses are phasic in nature and depend on the input information signal that causes energy redistribution and changes in the living system response.

PT JOURNAL ARTICLE

MJ Accidents

MJ Nuclear Reactors

MJ Radiation Dosage

MJ Radiation Effects

MI Adult

MI Child

MI Comparative Study

MI English Abstract

MI Human

MI Radiation Ionizing

MI Time Factors

MI Ukraine

Item: 93

UI 92080659

AU Serkiz IaI

AU Lipskaia AI

AU Pinchuk LB

AU Trishin VV

AU Kataevskii IuF

AU Koval' GN

TI [The biological effects in animals related to the accident at the Chernobyl Atomic Electric Power Station. 1. The experimental model. The radiation loads on animals kept continuously under external and internal radiation exposure in the area of the Chernobyl Atomic Electric Power Station]

SO Radiobiologiia 1991 Sep-Oct;31(5):629-34

JT RADIOBIOLOGIIA

LA Rus For

AB Irradiation conditions in which laboratory animals were kept in experimental laboratories of Chernobyl and Kiev after the accident at

the Chernobyl A.P.S. are described. The data are presented on the spectral structural and activity of radionuclides in the diet as well as in the organs and tissues of the animals. The radiation loads have been estimated with regard to an external gamma component and the internal one contributed by the incorporated radionuclides. It has been shown that radiation doses received by the animals during their lifetime due to these contributions do not exceed units of cGy.

PT JOURNAL ARTICLE
MJ Accidents
MJ Environmental Exposure
MJ Nuclear Reactors
MJ Power Plants
MJ Radiation Effects
MI Air Pollutants Radioactive /Adverse Effects
MI Air Pollutants Radioactive /Analysis
MI Animal
MI Comparative Study
MI English Abstract
MI Food Contamination Radioactive
MI Mice
MI Mice Inbred C57BL
MI Radiation Dosage
MI Radiation Monitoring
MI Radioisotopes /Analysis
MI Radioisotopes /Pharmacokinetics
MI Rats
MI Ukraine

Item: 94

UI 92080757
TI [Frequency and induction of mutation]
SO Tanpakushitsu Kakusan Koso 1991 Oct;36(13):2078-85
JT TANPAKUSHITSU KAKUSAN KOSO. PROTEIN, NUCLEIC ACID, ENZYME
LA Jpn For
PT JOURNAL ARTICLE
MJ Mutation
MI Cells Cultured
MI Mutagens /Pharmacology
MI Radiation Effects

Item: 95

UI 92087581
AU Cordt-Riehle I
TI Comments on radiation dosimetry and linear energy transfer.
SO Soz Praventivmed 1991;36(4-5):222-4
JT SOZIAL- UND PRAVENTIVMEDIZIN
AD Institute of Radiation Biology, University of Zurich.
LA Eng
AB The quantification of the physical effects of ionizing radiation in human tissue is the basis of risk assessment. This quantification

results from determination of kerma or absorbed dose. The procedure for the absolute determination of absorbed dose with an ionization chamber is discussed. The biological effects of ionizing radiation are dependent, not only on the absorbed dose but also on a second physical parameter, the linear energy transfer.

PT JOURNAL ARTICLE
MJ Energy Transfer
MJ Radiation Dosage
MJ Radiation Ionizing
MI Human
MI Radiation Effects

Item: 96

UI 92087583
AU Burkart W
TI From energy deposition to cancer.
SO Soz Praventivmed 1991;36(4-5):230-42
JT SOZIAL- UND PRAVENTIVMEDIZIN
AD Institut fur Strahlenhygiene/BfS, Neuherberg/Munchen, Germany.
LA Eng
AB Recent progress in molecular biology, genetics and microdosimetry has considerably increased our knowledge of the mechanisms of radiation-induced carcinogenesis. However, as a result of the complexities involved in the many genetic and epigenetic changes in cells leading to the expression of malignancy only years or even decades after radiation exposure, risk coefficients for the quantification of health detriment still have to be derived largely from epidemiological data and animal studies. On the other hand, improved understanding of molecular and cellular mechanisms is increasingly important in testing and refuting hypotheses about the relative carcinogenic potential of different radiation qualities and dose rates, and of low-level exposures.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Adaptation Biological /Radiation Effects
MI Alpha Particles
MI Animal
MI Cell Transformation Neoplastic /Radiation Effects
MI Dose-Response Relationship, Radiation
MI DNA /Radiation Effects
MI Energy Transfer
MI Human
MI Models Biological
MI Neoplasms, Radiation-Induced /Etiology
MI Radiation Dosage
MI Time Factors

Item: 97

UI 92087589
 AU Cardis E
 AU Est`eve J
 TI Epidemiological designs in radioepidemiological research.
 SO Soz Praventivmed 1991;36(4-5):279-85
 JT SOZIAL- UND PRAVENTIVMEDIZIN
 AD International Agency for Research on Cancer, Lyon, France.
 LA Eng
 AB Most of the information currently available on radiation effects comes from the observation of individuals who received high doses, either from one acute exposure or a series of exposures. Because of the uncertainties in extrapolating risks from these studies to the exposure circumstances of most cancers today (in particular, low-level environmental exposure), direct epidemiologic studies of populations receiving low doses chronically are needed. The effects which we want to quantify are likely to be small, however, and extreme care must therefore be put into the design of such studies if they are to be informative for risk assessment purposes. The areas of particular importance in designing risk assessment studies are reviewed. The advantages and limitations of various epidemiological study designs, and the problems and importance of dosimetry are discussed. Examples from the recent epidemiological literature are presented to illustrate the discussion.
 PT JOURNAL ARTICLE
 MJ Epidemiologic Methods
 MJ Radiation Effects
 MJ Research Design
 MI Case-Control Studies
 MI Cohort Studies
 MI Ecology
 MI Environmental Exposure
 MI Human
 MI Radiation Dosage
 MI Radioactive Pollutants

Item: 98

UI 92106266
 TI A review of forty-five years study of Hiroshima and Nagasaki atomic bomb survivors.
 SO J Radiat Res (Tokyo) 1991 Mar;32 Suppl:1-412
 JT JOURNAL OF RADIATION RESEARCH
 LA Eng
 PT OVERALL
 MJ Nuclear Warfare
 MJ Radiation Effects
 MI Human
 MI Japan

Item: 99

UI 92115138

AU Proietti A
 AU Murer B
 AU Muretto P
 AU Andreani M
 AU Lucarelli G
 AU Di Pietrantonj F
 TI [Biologic effects of total body irradiation with single dose
 administered with various dose-rate]
 SO Minerva Med 1991 Nov;82(11):723-31
 JT MINERVA MEDICA
 AD Ospedale Regionale, Torrette di Ancona, Divisione di Radioterapia,
 Universit`a di Ancona.
 LA Ita For
 AB Total body irradiation (TBI) is used in conditioning regimens prior to
 bone marrow transplantation (BMT) in haematologic diseases to achieve
 the objective of eradicating bone marrow stem cells. The dose
 deliverable to the whole body is limited by the radiation tolerance of
 the normal tissues, especially of the lung, which is the major dose
 limiting organ because of the high incidence of interstitial pneumonia.
 The dose rate is important to successfully affect the therapeutic ratio
 of TBI and BMT; two different dose-rate schedules have been compared to
 define radiation damages in all tissues. Twenty mini-pigs were lethally
 irradiated, TBI was performed with 750 cGy total dose, but with two
 different midplane dose rates: a low dose rate (LDR) of 5 cGy/min and a
 quite high dose rate (HDR) of 25 cGy/min. In mini-pigs lethally
 irradiated with HDR, microscopic examination showed severe hemorrhagic
 changes in bone marrow, lymphonodes, lung parenchyma and other tissues,
 more prominent than in LDR mini-pigs. Hystologic pictures showed
 moderate changes in kidney and liver parenchyma, in thyroid and brain
 tissue both in HDR and in LDR group. Tissue radiation damages are
 related not only to TBI total dose, but to the dose-rate; the selection
 of a low dose-rate is useful to reduce radiation cell killing by
 accumulation of lethal injury to normal tissues, especially to the lung.
 PT JOURNAL ARTICLE
 MJ Radiation Dosage
 MJ Whole-Body Irradiation /Methods
 MI Animal
 MI Dose-Response Relationship, Radiation
 MI English Abstract
 MI Radiation Effects
 MI Swine
 MI Swine Miniature

Item: 100

UI 92124828
 AU Baraboi VA
 TI [The characteristics of the biological action of ionizing radiation at
 low doses]
 SO Vrach Delo 1991 Jul;(7):111-2
 JT VRACHEBNOE DELO

LA Rus For
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Accidents
MI Dose-Response Relationship, Radiation
MI Human
MI Nuclear Reactors
MI Power Plants
MI Ukraine

Item: 101

UI 92205960
AU Petriuk SE
TI [The combined action of external and internal sources of ionizing radiation on the body]
SO Vrach Delo 1991 Oct;(10):20-3
JT VRACHEBNOE DELO
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Animal
MI Dose-Response Relationship, Radiation
MI Gamma Rays /Adverse Effects
MI Human
MI Neoplasms, Radiation-Induced /Etiology
MI Radiation Injuries /Etiology
MI Radiation Injuries Experimental /Etiology
MI Radioactive Fallout /Adverse Effects
MI Radioisotopes /Adverse Effects

Item: 102

UI 92241684
AU Ovsiannikov AS
AU Murdzhikneli KG
TI [Morbidity based on medical examination data on x-ray apparatus electromechanical engineers performing repair and adjustment operations]
SO Gig Tr Prof Zabol 1991;(11):11-2
JT GIGIENA TRUDA I PROFESSIONALNYE ZABOLEVANIYA
LA Rus For
AB The article contains results of a study of the morbidity rates among electricians dealing with servicing medical X-ray equipment. The exposure dosages were at 15 +/- mGr/year. With a considerably low prevalence of any specific chronic pathology on the whole, the professional groups exhibited higher morbidity rates caused by hypertension, duodenal ulcers and hepatic cirrhosis. No specific changes in the blood indices were found. The contributors proposed a set of preventive measures, including extensive medical examinations to reveal hypertension initial stages, along with health-related measures

towards improvement of the occupational and social conditions.

PT JOURNAL ARTICLE
MJ Occupational Diseases /Epidemiology
MJ Technology Radiologic /Instrumentation
MI Chronic Disease
MI English Abstract
MI Human
MI Incidence
MI Male
MI Occupational Diseases /Diagnosis
MI Occupational Exposure /Adverse Effects
MI Radiation Effects
MI Technology Radiologic /Statistics & Numerical Data
MI USSR /Epidemiology

Item: 103

UI 92246767
AU Zaider M
TI Charged-particle transport in the condensed phase.
SO Basic Life Sci 1991;58:137-60; discussion 160-2
JT BASIC LIFE SCIENCES
AD Center for Radiological Research, College of Physicians & Surgeons of Columbia University, New York.
LA Eng
AB Traditionally, studies of the biological effects of ionizing radiation have rested on the triumvirate: (gas-phase) radiation physics, biophysical modeling, and radiation biology. Two technical developments, the advent of supercomputing as a routine tool in quantum solid-state material science and molecular dynamics on the one hand, and molecular biology on the other hand, have created--perhaps for the first time--the possibility of directly linking a more realistic description of the radiation field to observable events at biomolecular level. It also becomes increasingly clear that the identification of specific molecular targets imposes a challenge to the radiation physics community to be equally specific in treating the energy--deposition stage of radiation action. In this paper: a) I review--and exemplify with results from our own work--the current status in Monte Carlo simulation of gas-phase material (particle transport and stochastic chemistry); b) examine the link between these essentially geometric representations of the track and the concept of "spatial distribution of energy deposition," a staple in radiation modeling; c) advocate an effort towards developing conceptually and calculationally, the field of solid-state microdosimetry; and d) describe methods based on semi-empirical Hamiltonians or quasi-particle techniques for obtaining the frequency-dependent and wave-vector-dependent dielectric response function for biomolecular crystalline systems, which are the main ingredients for describing charged-particle transport.

PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Ionizing

MI Mathematics
MI Models Theoretical
MI Monte Carlo Method
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S

Item: 104

UI 92246768
AU Katz R
AU Varma MN
TI Radial distribution of dose.
SO Basic Life Sci 1991;58:163-79; discussion 179-80
JT BASIC LIFE SCIENCES
AD University of Nebraska, Lincoln.
LA Eng
AB The radial distribution of dose about the path of a heavy ion, principally from delta rays, is one of the central contributions of atomic physics to the systematization of high LET radiation effects in condensed matter, whether the detection arises in chemical, physical, or biological systems. In addition to the radial distribution of dose, we require knowledge of the response of the system to X-rays or gamma-rays or to beams of energetic electrons such that the electron slowing-down spectra from these radiations can approximate the slowing-down spectra from delta rays even at different radial distances from the ion's path. A combination of these data enables us to calculate the action cross sections ion bombardments in all detectors for which this information is available. These cross sections are indispensable for the evaluation of effects caused by high LET radiations. In this paper we focus attention principally on the calculation and measurement of the radial distribution of dose and on their limitations.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Enzymes /Radiation Effects
MI Gamma Rays
MI Mathematics
MI Models Theoretical
MI Support, U.S. Gov't, Non-P.H.S.
MI Viruses /Radiation Effects B4 B4.0
MI X Rays

Item: 105

UI 92246774
AU Braby LA
TI Phenomenological models.
SO Basic Life Sci 1991;58:339-61; discussion 361-5
JT BASIC LIFE SCIENCES
AD Pacific Northwest Laboratory, Richland, Washington.
LA Eng

AB The biological effects of ionizing radiation exposure are the result of a complex sequence of physical, chemical, biochemical, and physiological interactions which are modified by characteristics of the radiation, the timing of its administration, the chemical and physical environment, and the nature of the biological system. However, it is generally agreed that the health effects in animals originate from changes in individual cells, or possibly small groups of cells, and that these cellular changes are initiated by ionizations and excitations produced by the passage of charged particles through the cells. One way to begin a search for an understanding of health effects of radiation is through the development of phenomenological models of the response. Many models have been presented and tested in the slowly evolving process of characterizing cellular response. Different phenomena (LET dependence, dose rate effect, oxygen effect etc.) and different end points (cell survival, aberration formation, transformation, etc.) have been observed, and no single model has been developed to cover all of them. Instead, a range of models covering different end points and phenomena have developed in parallel. Many of these models employ similar assumptions about some underlying processes while differing about the nature of others. An attempt is made to organize many of the models into groups with similar features and to compare the consequences of those features with the actual experimental observations. It is assumed that by showing that some assumptions are inconsistent with experimental observations, the job of devising and testing mechanistic models can be simplified.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ DNA /Radiation Effects

MJ DNA Damage

MJ Models Biological

MJ Radiation Effects

MI Animal

MI Dose-Response Relationship, Radiation

MI Energy Transfer

MI Support, U.S. Gov't, Non-P.H.S.

Item: 106

UI 92246775

AU Curtis SB

TI Mechanistic models.

SO Basic Life Sci 1991;58:367-82; discussion 382-6

JT BASIC LIFE SCIENCES

AD Cell and Molecular Biology Division, Lawrence Berkeley Laboratory,
University of California, Berkeley.

LA Eng

AB Several models and theories are reviewed that incorporate the idea of radiation-induced lesions (repairable and/or irreparable) that can be related to molecular lesions in the DNA molecule. Usually the DNA double-strand or chromatin break is suggested as the critical lesion.

In the models, the shoulder on the low-LET survival curve is hypothesized as being due to one (or more) of the following three mechanisms: (i) "interaction" of lesions produced by statistically independent particle tracks, (ii) nonlinear (i.e., linear-quadratic) increase in the yield of initial lesions, and (iii) saturation of repair processes at high dose. Comparisons are made between the various approaches. Several significant advances in model development are discussed; in particular, a description of the matrix formulation of the Markov versions of the repair-misrepair (RMR) and lethal-potentially-lethal (LPL) models is given. The more advanced theories have incorporated statistical fluctuations in various aspects of the energy-loss and lesion-formation process. An important direction is the inclusion of physical and chemical processes into the formulations by incorporating relevant track structure theory (Monte Carlo track simulations) and chemical reactions of radiation-induced radicals. At the biological end, identification of repair genes and how they operate, as well as a better understanding of how DNA misjoinings lead to lethal chromosome aberrations, are needed for appropriate inclusion into the theories. More effort is necessary to model the complex end point of radiation-induced carcinogenesis.

PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ DNA /Radiation Effects
 MJ DNA Damage
 MJ Models Biological
 MJ Radiation Effects
 MI Animal
 MI Cell Survival /Radiation Effects
 MI Mathematics
 MI Support, U.S. Gov't, Non-P.H.S.

Item: 107

UI 92312421
 AU Dederich DN
 TI Laser/tissue interaction.
 SO Alpha Omegan 1991;84(4):33-6
 JT ALPHA OMEGAN
 AD University of Pittsburgh, School of Dental Medicine.
 LA Eng
 AB When laser light impinges on tissue, it can reflect, scatter, be absorbed, or transmit to the surrounding tissue. Absorption controls to a great degree the extent to which reflection, scattering and transmission occur, and wavelength is the primary determinant of absorption. The CO2 laser is consistently absorbed by most materials and tissues and the Nd-YAG laser wavelength is preferentially absorbed in pigmented tissues. The factors which determine the initial tissue effect include the laser wavelength, laser power, laser waveform, tissue optical properties, and tissue thermal properties. There are almost an infinite number of combinations of these factors possible, many of which

would result in unacceptable damage to the tissues. This underscores the need to thoroughly test any particular combination of these factors on the conceptual, in-vitro, and in-vivo level before a treatment is offered.

PT JOURNAL ARTICLE
MJ Lasers /Adverse Effects
MJ Radiation Injuries /Etiology
MI Human
MI Radiation Effects

Item: 108

UI 92373657
AU Chen D
AU Wei L
TI Chromosome aberration, cancer mortality and hormetic phenomena among inhabitants in areas of high background radiation in China.
SO J Radiat Res (Tokyo) 1991 Dec;32 Suppl 2:46-53
JT JOURNAL OF RADIATION RESEARCH
AD High Background Radiation Research Group, Beijing, China.
LA Eng
AB The respective average annual doses are about 330 and 110 mR/yr, in the high background radiation areas (HBRA) in Yangjiang County and the control areas (CA) in Enping and Taishan Counties. Both the HBRA and CA are in Guangdong Province which borders the South China Sea. The frequencies of chromosome aberration in circulating lymphocytes were examined for persons residing in the HBRA and CA. Those in the HBRA had increased frequencies of detectable abnormalities in stable aberrations (translocations and inversions) and unstable aberrations (dicentrics and rings). Previous reports have shown that when samples of circulating lymphocytes taken from inhabitants were tested in vitro for mitotic responses to phytohemagglutinin (PHA) and for the degree of unscheduled DNA synthesis (UDS) induced by UV-irradiation, there were higher responsiveness and UDS rates for those in the HBRA than in the CA. In contrast, mortality from all cancers and those from leukemia, breast and lung cancers that are inducible by radiation was not higher in the HBRA. Although the differences in the cancer mortality rates for the HBRA and CA are not significant, the findings are compatible with the assumption that the lower mortality from cancer in the HBRA is the result of the hormetic effects of the three-fold higher dose rate of background radiation in that areas. This assumption requires further study.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Background Radiation
MJ Chromosome Aberrations
MJ Neoplasms /Mortality C4 C4.0
MI Adolescence
MI Adult
MI China /Epidemiology
MI Female

MI Human
MI Male
MI Middle Age
MI Radiation Dosage
MI Radiation Effects

Item: 109

UI 92098347
AU Turner JE
AU Bolch WE
AU Yoshida H
AU Jacobson KB
AU Wright HA
AU Hamm RN
AU Ritchie RH
AU Klots CE
TI Radiation damage to a biomolecule: new physical model successfully traces molecular events.
SO Int J Rad Appl Instrum [A] 1991;42(10):995-1001
JT INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART A, APPLIED RADIATION AND ISOTOPES
AD Health and Safety Research Division, Oak Ridge National Laboratory, TN 37831-6123.
LA Eng
AB For the first time, a complete computer simulation of physical and chemical reactions at the molecular level has been used to calculate the yield of a chemical species resulting from irradiation of a biological molecule in aqueous solution. Specifically, when a solution of glycylglycine is irradiated anaerobically, an ammonia molecule is released by the action of a hydrated electron, which is produced by irradiation of water. In the computations, Monte Carlo techniques are used to simulate the statistical progression of molecular events as they are assumed to occur. These include the initial physical ionization and excitation of water molecules along a particle track in the liquid; the subsequent formation of free radicals and other species; and the random diffusion and chemical reactions of the species with each other, the solvent, and solute molecules. We have calculated and measured the yield of ammonia from irradiation of glycylglycine with 250 kVp x-rays as a function of glycylglycine concentration between 0.01 and 1.2 M. Excellent agreement is obtained between predicted and measured results. The literal simulation of events, combined with specific experimental measurements, offers a powerful new tool for studying mechanisms of radiation action and damage at the molecular level.
PT JOURNAL ARTICLE
MJ Computer Simulation
MJ Radiation Effects
MI Ammonia
MI Anaerobiosis
MI Glycylglycine /Radiation Effects
MI Solutions

MI Support, U.S. Gov't, Non-P.H.S.
MI Water

Item: 110

UI 92105873
AU Hoshi M
AU Uehara S
AU Yamamoto O
AU Sawada S
AU Asao T
AU Kobayashi K
AU Maezawa H
AU Furusawa Y
AU Hieda K
AU Yamada T
TI Iron(II) sulphate (Fricke solution) oxidation yields for 8.9 and 13.6 keV X-rays from synchrotron radiation.
SO Int J Radiat Biol 1992 Jan;61(1):21-7
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Research Institute for Nuclear Medicine and Biology, Hiroshima University, Japan.
LA Eng
AB The oxidation yields (G) for 8.86 and 13.55 keV X-rays produced by synchrotron radiation were measured using an iron(II) sulphate (Fricke) solution. Monoenergetic X-rays were produced using a silicon crystal monochromator. The X-rays were absorbed in 0.4 M sulphuric acid-iron(II) sulphate solution and FeIII ion yields were measured and corrected for escape fractions resulting from scattering using Monte Carlo calculations. Doses in the solution were determined using a thin window, parallel plate chamber calibrated against a primary standard free-air chamber at the Electrotechnical Laboratory (Osaka, Japan). Yields (G) of 1.50 ± 0.06 and 1.43 ± 0.06 $\mu\text{mol J}^{-1}$ were obtained for 8.86 and 13.55 keV X-rays respectively.
PT JOURNAL ARTICLE
MJ Particle Accelerators
MJ Radiation Effects
MI Oxidation Reduction
MI Radiometry /Instrumentation
MI Radiometry /Methods
MI Relative Biological Effectiveness

Item: 111

UI 92132084
AU Conway JJ
TI Communicating risk information in medical practice.
SO Radiographics 1992 Jan;12(1):207-14
JT RADIOGRAPHICS
AD Division of Nuclear Medicine, Children's Memorial Hospital, Chicago, IL 60614.
LA Eng

AB The public's preceptions about the risks of radiation are adversely influenced by the many negative reports by the media on the hazards of all radiation. As a result, patients express concern about the risks of radiation from radiologic examinations. Radiologists are well positioned to dispel these fears because of their training and their access to and ability to interpret information from scientific organizations specifically concerned with the determination of radiation risk. To do this, radiologists must be willing to communicate with patients and be accessible. Pamphlets and handouts can be given to anxious patients before examinations. In direct interaction with patients, the radiologist must listen to them and be prepared to address their concerns, especially those about repeat examinations, exposure during pregnancy, inadvertent exposure of the fetus, exposure of children, use of radiation in research, and misadministration of radionuclides. In addition, radiologists can help patients by educating referring physicians, other medical staff, and nurses. They can also reach the public by being a spokesperson at meetings of local organizations or by accepting opportunities to speak to the media. All these efforts help counteract negative perceptions aroused by the media.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ Communication

MJ Physician-Patient Relations

MJ Radiation Effects

MJ Radiology

MI Child

MI Female

MI Human

MI Pregnancy

MI Risk Factors

Item: 112

UI 92213226

AU Abel H

TI [The risk of radiation. Are we really being realistic on this question? (editorial)]

SO Radiol Med (Torino) 1992 Jan-Feb;83(1-2):106-8

JT RADIOLOGIA MEDICA

AD Department of Radiation Biology, Central Institute for Cancer Research, Berlin, Germany.

LA Ita For

PT EDITORIAL

MJ Radiation Effects

MI Background Radiation

MI Dose-Response Relationship, Radiation

MI Human

MI Leukemia, Radiation-Induced /Epidemiology

MI Neoplasms, Radiation-Induced /Epidemiology

MI Risk Factors

Item: 113

UI 92216971

AU Leith JT

AU Padfield G

AU Quaranto L

AU Michelson S

TI Effect of preirradiation of transplantation site on growth characteristics and hypoxic fractions in human colon tumor xenografts.

SO Cancer Res 1992 Apr 15;52(8):2162-6

JT CANCER RESEARCH

AD Department of Radiation Medicine, Brown University School of Medicine, Providence, Rhode Island 02912.

LA Eng

AB The volumetric growth curves and hypoxic fractions of seven different human colon tumor lines (clone A, clone D, WiDR, SW480, SW620, DLD-2, and HCT-8) xenografted into the flank regions of either unirradiated nude mice or mice that had received 17.5 Gy of 250-kVp X-rays 1 day prior to implantation were biologically analyzed using the Verhulstian equation. Significant variation was found among tumors with respect to both initial growth rates (r , days⁻¹) and theoretical final volumes (carrying capacities, K , mm³). In radiation-damaged normal tissue, tumors grew relatively well for about the first 2 wk postimplantation, attaining volumes of about 70 to 155 mm³. Then, tumor growth rates altered. This effect varied from relatively minor effects on growth rate (tumors of clones A and D) to inhibition of growth, with actual decreases in tumor volume (e.g., WiDr, SW480, SW620, HCT-8, and DLD-2). After this short-term transience in growth kinetics, neoplasms began to steadily regrow at about 3 wk postimplantation, albeit at a slower rate than that seen in controls. Tumor bed effect values were calculated using the ratio of times at which control tumors and tumors growing in the radiation-injured tissue reached a volume of 7.5% of the K values derived from the respective control growth curves. Values for clone D, clone A, and WiDR, SW480, SW620, DLD-2, and HCT-8 tumors were, respectively, 1.89, 2.41, 3.48, 3.62, 2.82, 3.66, and 3.65, indicating that tumor bed effect responses varied by almost 100%, even for cancers of the same neoplastic class. Also, the hypoxic fractions of all tumors growing in radiation-damaged sites were increased as compared with levels in controls.

PT JOURNAL ARTICLE

MJ Colonic Neoplasms /Pathology

MJ Neoplasm Transplantation

MI Animal

MI Cell Count

MI Cell Division

MI Cell Hypoxia

MI Human

MI Male

MI Mice

MI Mice Nude

MI Radiation Dosage
MI Radiation Effects
MI Support U S Govt P H S
MI Tumor Cells Cultured

Item: 114

UI 92220948
AU Brooks AL
AU Guilmette RA
AU Hahn FF
AU Haley PJ
AU Muggenburg BA
AU Mewhinney JA
AU McClellan RO
TI Distribution and biological effects of inhaled $^{239}\text{Pu}(\text{NO}_3)_4$ in cynomolgus monkeys.
SO Radiat Res 1992 Apr;130(1):79-87
JT RADIATION RESEARCH
AD Lovelace Inhalation Toxicology Research Institute, Albuquerque, New Mexico 87185.
LA Eng
AB Twenty male cynomolgus monkeys were exposed by inhalation either to an aerosol of $^{239}\text{Pu}(\text{NO}_3)_4$ to produce projected initial lung burdens of either 40, 10, or 4 kBq or to a carrier aerosol as a control. Animals died or were sacrificed at 0.01, 1, 3, 6, 12, 24, 40, and 99 months after inhalation, and the distribution and biological effects of the ^{239}Pu were determined. The ^{239}Pu cleared efficiently from the lungs so that less than 0.05 kBq remained at 99 months after exposure to 40 kBq. Total skeletal ^{239}Pu activity was nearly constant after the first year, but the fraction of the body burden in skeleton at sacrifice increased with time up to 99 months because of clearance from other organs. Plutonium in the liver increased to a peak at 1 year and then decreased to about 10% of the peak value at 99 months. Plutonium in the testes was localized in the interstitial tissue with only 0.01 to 0.002% of the projected lung burden remaining in testes at 99 months after inhalation. Three animals exposed to 40 kBq of ^{239}Pu died of radiation-related pulmonary pneumonitis and fibrosis. A primary papillary adenocarcinoma of the lung was identified in one animal exposed to 40 kBq initial lung burden and sacrificed 99 months after inhalation. The frequency of chromosome aberrations in blood lymphocytes was significantly elevated only in monkeys with projected deposits of 40 kBq of ^{239}Pu . There was no change in aberration frequency in other exposure groups as a function of inhaled activity, time after exposure, or calculated total dose to the lungs. Only in monkeys that had marked radiation-induced pathological changes in the lung did the frequency of chromosome-type aberrations increase significantly, to a value about twice the control level. In cynomolgus monkeys, chromosome aberration frequency in blood lymphocytes is not a good indicator of radiation dose or damage from inhaled soluble plutonium.
PT JOURNAL ARTICLE

MJ Plutonium
MI Administration Inhalation
MI Animal
MI Chromosome Aberrations
MI Lung /Radiation Effects
MI Lymphocytes /Radiation Effects
MI Macaca fascicularis
MI Male
MI Plutonium /Administration & Dosage
MI Plutonium /Pharmacokinetics
MI Radiation Effects
MI Support, U.S. Gov't, Non-P.H.S.
MI Tissue Distribution

Item: 115

UI 92228975
AU Zamulaeva IA
AU Piatenko VS
AU Synzynys BI
AU Afanas'ev VN
AU Matylevich NP
AU Saenko AS
TI [The combined action of gamma irradiation and hyperthermia on the structure of the cell population in the Chinese hamster]
SO Radiobiologiia 1992 Jan-Feb;32(1):112-6
JT RADIOBIOLOGIIA
LA Rus For
AB A change in the structure of FAF-28 Chinese hamster cell population occurred during 24 h following gamma-irradiation or hyperthermia heating, or the effect of both factors was studied by flow cytofluorometry. With radiation delivered immediately after heating the distribution of cells among cycle phases was nearly the same as with hyperthermia alone: the share of cells at the S-phase was invariable during the first 4-6 h, then it slowly diminished; at G1 it slowly decreased and at G2 increased. When irradiation preceded heating the pattern of cell redistribution during the first hours was the same as that with radiation alone: the "wave" of transition from G1 to S phase was the same, but shorter in amplitude and longer in time; then cells were accumulated at G2+M and remained there for 24 h. Thus, of the two factors applied, the first was the major one in changing the cell population structure during the first hours after treatment. In 24 h the result was the same, that is, the considerable accumulation of cells at G2+M.
PT JOURNAL ARTICLE
MJ Fever /Pathology
MJ Radiation Effects
MI Animal
MI Cell Count /Radiation Effects
MI Cell Cycle /Radiation Effects
MI Cell Line

MI Cell Separation
MI Cells Cultured /Radiation Effects
MI Comparative Study
MI Cricetulus
MI English Abstract
MI Flow Cytometry
MI Gamma Rays
MI Guinea Pigs
MI Hamsters
MI Time Factors

Item: 116

UI 92343260
AU Van Velthoven R
TI [Clinical application and risks of surgical lasers]
SO Acta Chir Belg 1992 May-Jun;92(3):140-57
JT ACTA CHIRURGICA BELGICA
AD Dienst Heelkunde, Jules Bordet Instituut, Brussel.
LA Dut For
LA Fre For
PT JOURNAL ARTICLE
MJ Laser Surgery /Instrumentation
MI Burns Electric /Etiology
MI Burns Electric /Prevention & Control
MI Human
MI Laser Surgery /Adverse Effects
MI Radiation Effects
MI Safety

Item: 117

UI 92350882
AU Wolff S
TI Failla Memorial Lecture. Is radiation all bad? The search for adaptation.
SO Radiat Res 1992 Aug;131(2):117-23
JT RADIATION RESEARCH
AD Laboratory of Radiobiology and Environmental Health, University of California, San Francisco 94143-0750.
LA Eng
PT JOURNAL ARTICLE
MJ Adaptation Physiological
MJ Physical Stimulation
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Human
MI Lymphocytes /Radiation Effects
MI Support, U.S. Gov't, Non-P.H.S.

Item: 118

UI 92366727

AU Schimmerling W
TI Radiobiological problems in space. An overview.
SO Radiat Environ Biophys 1992;31(3):197-203
JT RADIATION AND ENVIRONMENTAL BIOPHYSICS
AD Jet Propulsion Laboratory, California Institute of Technology.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Dosage
MJ Radiation Effects
MJ Space Flight
MI Animal
MI Human
MI Models Theoretical
MI Research Design

Item: 119

UI 92374905
AU Baily NA
TI A review of the processes by which ultrasound is generated through the interaction of ionizing radiation and irradiated materials: some possible applications.
SO Med Phys 1992 May-Jun;19(3):525-32
JT MEDICAL PHYSICS
AD Department of Radiology, University of California, San Diego, La Jolla 92093-0632.
LA Eng
AB The production of acoustic waves following the absorption of energy deposited by ionizing radiation, with a consequent production of localized thermal spikes has been confirmed by a number of papers published in the physics literature. This paper reviews the basic theory and presents most of the supporting experimental data. Some of the experimental methods used and the results obtained are summarized. In addition to the rather straightforward and routine use of acoustic phenomena produced by ionizing radiation for the detection and measurements of such radiation, there are some special applications that appear to be especially attractive for medical physics. Some of these are unique to ionizing radiation in that the amplitude of the ultrasound wave is proportional to the energy deposited in small volumes at localized sites of these interactions, while others derive from methodologies already in use with nonionizing radiations. The detection and measurement of this ultrasonic radiation could possibly lead to methods for the study of such fundamental phenomenon as track structure, precision localization of therapeutic treatment beams, and even the possible imaging of internal anatomic structures to provide on-line portal images.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL

MJ Radiation Ionizing
MJ Ultrasonics
MI Heat
MI Mathematics
MI Models Theoretical
MI Radiation Effects
MI Thermodynamics

Item: 120

UI 92386431
AU Nemechek PM
AU Corder MC
TI Radiation recall associated with vinblastine in a patient treated for Kaposi sarcoma related to acquired immune deficiency syndrome.
SO Cancer 1992 Sep 15;70(6):1605-6
JT CANCER
AD Department of Internal Medicine, Kern Medical Center, Bakersfield, California 93305.
LA Eng
AB A 34-year-old white man with the human immunodeficiency virus infection had a large Kaposi sarcoma lesion of his foot. This was treated with local radiation therapy consisting of 2700 rads administered in 15 fractions during a period of 28 days. Ten months later, the patient had painful disseminated Kaposi sarcoma and was treated with a 10 mg/m² dose of intravenous vinblastine. Forty-eight hours after receiving the chemotherapy, the patient had an area of localized painful erythema develop, swelling, and vesicular eruption over the previous site of radiation therapy. This was healed by the fifth day after chemotherapy. No additional vinblastine was administered. Radiation recall occurring in a patient with significant immunosuppression (CD4 lymphocytes, 30 cells/microliters) possibly suggests that the tissue response is not a lymphocyte-mediated event.
PT JOURNAL ARTICLE
MJ Acquired Immunodeficiency Syndrome /Complications
MJ Sarcoma Kaposi /Drug Therapy
MJ Sarcoma Kaposi /Radiotherapy
MJ Skin Diseases /Etiology
MJ Vinblastine /Adverse Effects
MI Adult
MI Case Report
MI Combined Modality Therapy
MI Human
MI Male
MI Radiation Effects
MI Sarcoma Kaposi /Etiology
MI Vinblastine /Therapeutic Use

Item: 121

UI 93014949
AU Silini G

TI Ethical issues in radiation protection--the 1992 Sievert Lecture.
SO Health Phys 1992 Aug;63(2):139-48
JT HEALTH PHYSICS
LA Eng
PT JOURNAL ARTICLE
MJ Ethics Medical
MJ Radiation Effects
MJ Radiation Protection
MI Awards and Prizes
MI Human
MI Portraits
MI Societies Medical

Item: 122

UI 93049088
AU Upton AC
TI The first hundred years of radiation research: what have they taught us?
SO Environ Res 1992 Oct;59(1):36-48
JT ENVIRONMENTAL RESEARCH
AD Department of Environmental Medicine, New York University Medical
Center, New York 10016.
LA Eng
PT HISTORICAL ARTICLE
PT JOURNAL ARTICLE
MJ Radiation Injuries /History
MJ Radiobiology /History
MI History of Medicine 19th Cent
MI History of Medicine 20th Cent
MI Human
MI Radiation Effects
MI Support, Non-U.S. Gov't
MI Support U S Govt P H S
MI United States

Item: 123

UI 93062999
AU Russell LB
AU Russell WL
TI Frequency and nature of specific-locus mutations induced in female mice
by radiations and chemicals: a review.
SO Mutat Res 1992 Dec;296(1-2):107-27
JT MUTATION RESEARCH
AD Biology Division, Oak Ridge National Laboratory, TN 37831-8077.
LA Eng
AB The inducibility of heritable mutations in female mammals has been
measured in the mouse specific-locus test (SLT). For radiation-induced
mutations, a large body of data has been accumulated that includes
information about biological and physical factors that influence
mutation yields. However, relatively few SLT studies in females have
been conducted with chemicals to date. A single estimate of the

spontaneous mutation rate in oocytes, 6/536,207, has been derived as the most appropriate one to subtract from experimental rates. This rate is highly significantly below the spontaneous mutation rate in males. Mutations recovered from females mutagenized at any time after about the 12th day post-conception are induced in non-dividing cells. In adult females, most oocytes are arrested in small follicles; maturation from this stage to ovulation takes several weeks. High-dose-rate radiations are more mutagenic in mature and maturing oocytes than in spermatogonia of the male; on the other hand, no clearly induced mutations have been recovered from irradiated arrested oocytes. Efficient repair processes have been invoked to explain the latter finding as well as the upward-curving dose-effect relation for acute irradiation, and the fact that dose protraction drastically reduces mutation yield from mature and maturing oocytes. The dose-protraction effect is much greater than that found in spermatogonia. Radiation-induced mutation rates in embryonic, fetal, and newborn females are overall lower than those in the mature and maturing oocytes of adults. A dose-protraction effect has also been demonstrated at an early developmental stage when the nuclear morphology of mouse oocytes most resembles that of the human. Of only 5 chemicals so far explored for their effect in oocytes, 2 (ethylnitrosourea, ENU, and triethylenemelamine, TEM), and possibly a third (procarbazine hydrochloride, PRC), are mutagenic--with at least one of these (ENU) mutagenic in arrested as well as maturing oocytes. However, the mutation rate is, in each case, lower than for treated male germ cells. By contrast, ENU-induced mutation yield for the maternal genome of the zygote is an order of magnitude higher than that for the zygote's paternal genome or for spermatogonia. A high proportion of mutants derived from chemical treatment of oocytes (including the oocyte genome in zygotes) are mosaics, probably owing to lesions affecting only 1 strand of the DNA. A characteristic of specific-locus mutations induced in oocytes is that they include a considerably higher percentage of large (multi-locus) lesions (LLs) than do mutations induced in spermatogonia.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Mutagens
MJ Mutation
MJ Oocytes /Physiology
MJ Zygote /Physiology
MI Animal
MI Female
MI Male
MI Mice
MI Mosaicism
MI Oocytes /Drug Effects
MI Oocytes /Radiation Effects
MI Radiation Effects
MI Spermatogonia /Drug Effects
MI Spermatogonia /Physiology

MI Spermatogonia /Radiation Effects
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S
MI Zygote /Drug Effects
MI Zygote /Radiation Effects

Item: 124

UI 93066909
AU Adams GE
TI Failla Memorial Lecture. Redox, radiation, and reductive bioactivation.
SO Radiat Res 1992 Nov;132(2):129-39
JT RADIATION RESEARCH
AD MRC Radiobiology Unit, Didcot, Oxfordshire, United Kingdom.
LA Eng
AB A brief review is presented of the background to, and the principles involved in, the development of redox-sensitive drugs for use in cancer therapy. The role of redox processes in the action of various types of radiosensitizers and in the activation of bioreductive drugs is described. The mechanisms by which many simple hypoxic cell radiosensitizers act are believed to involve fast electron transfer processes involving DNA. Some of these agents can also function as hypoxic cell cytotoxins, although the mechanisms involved are different. These "bioreductive drugs" are activated by intracellular metabolic reduction mediated through various cellular reductases. Usually, though not always, bioreduction is favored under hypoxic conditions, and this is why many of these compounds display differential cytotoxicity to hypoxic cells. This is one of the rationales for selectivity in solid tumors. The potencies of both hypoxic cell radiosensitizers and bioreductive drugs are strongly correlated with their electron affinities. Classes of bioreductive agents of current interest are described briefly. These include simple and dual-function nitroheterocycles including the highly potent compound RB-6145, quinone-based drugs including analogues of mitomycin C, and heterocyclic compounds containing N-oxide functions. The study of bioreductive agents for potential use as adjuncts for various approaches to cancer treatment is described.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Antineoplastic Agents /Pharmacology
MJ Biotransformation
MJ DNA /Drug Effects
MJ Radiation Effects
MJ Radiation-Sensitizing Agents /Pharmacology
MI Animal
MI Cell Hypoxia
MI Electron Transport
MI Human
MI Oxidation Reduction
MI Tumor Cells Cultured

Item: 125

UI 93066917

AU Rossi HH

AU Zaider M

TI Compound dual radiation action. I. General aspects [published erratum appears in Radiat Res 1993 Feb;133(2):274]

SO Radiat Res 1992 Nov;132(2):178-83

JT RADIATION RESEARCH

AD Center for Radiological Research, Columbia University, New York, New York 10032.

LA Eng

AB The theory of dual radiation action (A. M. Kellerer and H. H. Rossi, Curr. Top. Radiat. Res. Q. 8, 85-158, 1972) has attributed the effects of ionizing radiation on eukaryotes to the production of molecular changes (sublesions) that combine pairwise to produce injury (lesions) responsible for radiation effects. If the yield of sublesions is independent of radiation quality (as is currently assumed), dual radiation action results in the well-known proportionality between the average yield of lesions and $\alpha + \beta D^2$, where β is a radiation-independent quantity. It has, however, been observed that β changes with radiation type. In this paper we propose an explanation of this discrepancy. Specifically, we suggest that dual radiation action-type processes where β is variable are the result of a mechanism--termed compound dual radiation action--which consists of a sequence of simple dual radiation action processes, each process being the causative agent for the next one. The sequence, single-strand DNA breaks, double-strand DNA breaks (chromosome breaks), and exchange-type chromosomal aberrations, is one such example examined in the paper.

PT JOURNAL ARTICLE

MJ Chromosome Aberrations

MJ DNA /Radiation Effects

MJ DNA Damage

MJ Models Theoretical

MJ Radiation Effects

MJ Radiation Ionizing

MI Kinetics

MI Mathematics

MI Support, U.S. Gov't, Non-P.H.S.

MI Support U S Govt P H S

Item: 126

UI 93090889

AU Abrams RA

TI Recent developments in radiotherapy.

SO Curr Opin Oncol 1992 Dec;4(6):1099-107

JT CURRENT OPINION IN ONCOLOGY

AD Johns Hopkins Hospital, Division of Radiation Oncology, Baltimore, MD 21287.

LA Eng

AB Radiation oncology is a dynamic discipline. The radiobiologic basis for understanding and anticipating treatment effects continues to grow. Improved understanding is permitting study of altered fractionation regimens and safer integration into the clinic of high-dose-rate brachytherapy. A new agent, SR 4233, may completely revise clinical approaches to tumor hypoxia, especially intermittent (or "dynamic") hypoxia. The availability of computer technology that permits three-dimensional treatment planning with unusual beam and treatment table orientations should result in isodose lines that conform very tightly to desired treatment volumes, permitting higher doses of treatment with acceptable normal-tissue risk. The biology of cytotoxic drug and irradiation interactions and of cytokine and irradiation interactions is an area of growing promise. Combined chemotherapy and radiotherapy treatments have, in the past year, suggested major improvements in the management of esophageal and laryngeal cancer. The importance of local and regional tumor control in contributing to clinical disease course is being understood with increasing clarity, validating the development of technically demanding new approaches to administering irradiation and the use of adjunctive radiotherapy following chemotherapy for selected neoplastic diseases.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW LITERATURE

MJ Radiotherapy

MI Combined Modality Therapy

MI Human

MI Neoplasms /Radiotherapy C4 C4.0

MI Radiation Effects

MI Radiation Tolerance

MI Radiotherapy Dosage

Item: 127

UI 93126602

AU Hendry JH

TI Treatment acceleration in radiotherapy: the relative time factors and dose-response slopes for tumours and normal tissues.

SO Radiother Oncol 1992 Dec;25(4):308-12

JT RADIOTHERAPY AND ONCOLOGY

AD Cancer Research Campaign Department of Experimental Radiation Oncology, Paterson Institute for Cancer Research, Christie Hospital (NHS) Trust, Manchester, UK.

LA Eng

AB A published collation of data for control of head and neck cancer in over 4500 patients has been subjected to direct analysis to deduce dose-response, fractionation, and time parameters. The analysis confirms the presence of a significant time factor of the order of 0.5-0.6 Gy/day, deduced previously using various assumptions and normalisation procedures. In addition, the dose-response curve was characterised by $D_{0.5} = 29$ Gy which contributed to long "effective" doubling times being deduced for tumour clonogens in the patient

population as a whole. Some late-reacting normal tissues also show significant time factors, and furthermore, their dose-response curves are in general steeper than for tumours. Hence, care should be taken in accelerating treatments to improve local control, if the treatments are truly at tolerance regarding late-appearing major complications.

PT JOURNAL ARTICLE
PT META-ANALYSIS
MJ Head and Neck Neoplasms /Radiotherapy
MJ Radiation Effects
MJ Radiotherapy Dosage
MI Dose-Response Relationship, Radiation
MI Head and Neck Neoplasms /Pathology
MI Human
MI Likelihood Functions
MI Radiation Tolerance
MI Time Factors

Item: 128

UI 93136865
AU Berry RJ
TI Striking a balance: benefit and risk in man's exposure to man-made radiations.
SO Br J Radiol 1992 Jan;65(769):1-8
JT BRITISH JOURNAL OF RADIOLOGY
AD British Nuclear Fuels plc, Warrington, Cheshire, UK.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MJ Radiography
MI Human
MI Radiation Dosage
MI Radiography /Adverse Effects
MI Risk Factors

Item: 129

UI 93147624
AU Watanabe M
AU Suzuki M
AU Suzuki K
AU Nakano K
AU Watanabe K
TI Effect of multiple irradiation with low doses of gamma-rays on morphological transformation and growth ability of human embryo cells in vitro.
SO Int J Radiat Biol 1992 Dec;62(6):711-8
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Division of Radiation Biology, Faculty of Pharmaceutical Sciences, Nagasaki University, Japan.

LA Eng
AB We have measured expression of transformed phenotypes in human embryo (HE) cells repeatedly irradiated with a dose of 7.5 cGy per week throughout the life span of these cells in vitro. Irradiation was repeated until the cells had accumulated 195 cGy at which time the cells had reached the equivalent of their 26th passage and samples of cells at several passages were assayed for cell survival by colony formation, for mutation at hypoxanthine guanine phosphoribosyl transferase (HGPRT) locus and for transformation by focus formation. The lifespan (mean population doublings) of multiple irradiated cultures with a total dose of 97.5 cGy was slightly, but significantly, prolonged over that of controls. For example, if cells had accumulated 195 cGy, the maximum number of cell division of HE cells in vitro extended to 130-160% of non-irradiated control. Although transformed foci were not observed with cells until cells had accumulated 97.5 cGy, it increased with increasing accumulated dose. No cells, however, showed unlimited life span in vitro and also expressed tumorigenicity.

PT JOURNAL ARTICLE
MJ Cell Transformation Neoplastic
MJ Cesium Radioisotopes
MJ Embryo /Radiation Effects
MI Cell Survival /Radiation Effects
MI Embryo /Cytology
MI Embryo /Growth & Development
MI Gamma Rays
MI Human
MI In Vitro
MI Mutation
MI Radiation Dosage
MI Radiation Effects
MI Support, Non-U.S. Gov't

Item: 130

UI 93182291
AU Pilinskaia MA
AU Shemetun AM
AU Eremeeva MN
AU Red'ko DV
TI [The cytogenetic indication of irradiation in persons exposed to the action of the factors in the Chernobyl accident]
SO Tsitol Genet 1992 Nov-Dec;26(6):6-9
JT TSITOLOGIJA I GENETIKA
LA Rus For
AB 363 men who have been working under conditions of additional irradiation in terms from few hours to some months were cytogenetically examined to define individual irradiation. In 111 men with the known dose of irradiation (5-140 cGy), the results of cytogenetic evaluation indicated, as a rule, a less intensive irradiation than physical dosimetry. This could be caused by elimination of chromosome aberrations, individual sensitivity, peculiar irradiation situation, or

in some cases by incorrect evaluation of dose. In 252 men with the unknown dose of irradiation a tentative level was determined as based on frequency of metaphases with chromosome type aberrations. According to the study the absorbed dose was below 25 cGy in 209 cases, 26-50 cGy in 39 cases, and reached 51-90 cGy in 4 cases.

PT JOURNAL ARTICLE
MJ Accidents
MJ Chromosome Aberrations
MJ Nuclear Reactors
MJ Power Plants
MJ Radiation Effects
MI Adult
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Human
MI Male
MI Middle Age
MI Time Factors
MI Ukraine

Item: 131

UI 93182418
AU Bezdol'naia IS
AU Dumanskii IuD
AU Sodovnikov IuIu
AU Slesarev DIu
AU Petrukha VI
TI [Programming apparatus support of an electrophysiological experiment in hygiene research to set standards for nonionizing radiations]
SO Vrach Delo 1992 Nov-Dec;(11-12):64-6
JT VRACHEBNOE DELO
LA Rus For
AB The authors developed and introduced into practice program-apparatus complex ensuring automation of electrophysiological experiments. This allowed to use neurophysiological methods as an express-analysis with the purpose of substantiating critically limited levels of electromagnetic radiation.
PT JOURNAL ARTICLE
MJ Electrophysiology /Instrumentation
MJ Microcomputers
MJ Radiation Effects
MI Animal
MI Brain /Physiology
MI Brain /Radiation Effects
MI Electroencephalography /Instrumentation
MI English Abstract
MI Human
MI Maximum Permissible Exposure Level
MI Radiation, Non-Ionizing
MI Research /Instrumentation

Item: 132

UI 93157546
AU Kisel'gof EI
AU Shorokhova VB
TI [Cyclic nucleotides in rat tissues under long-term irradiation]
SO Radiobiologiya 1992 Nov-Dec;32(6):802-6
JT RADIOBIOLOGIYA
LA Rus For
AB Considerable changes in concentrations of cAMP and cGMP and in the cAMP/cGMP ratio were found in the thymus and blood plasma of rats subjected to long-term irradiation at cumulative doses of 10 to 20 Gy. This might be a manifestation of adaptation reactions that develop in response to the effect of ionizing radiation.
PT JOURNAL ARTICLE
MJ Bone Marrow /Radiation Effects
MJ Cyclic AMP /Radiation Effects
MJ Cyclic GMP /Radiation Effects
MJ Thymus Gland /Radiation Effects
MI Adaptation Physiological
MI Animal
MI Bone Marrow /Metabolism
MI Comparative Study
MI Cyclic AMP /Blood
MI Cyclic GMP /Urine
MI English Abstract
MI Male
MI Radiation Effects
MI Rats
MI Rats Wistar
MI Thymus Gland /Metabolism
MI Time Factors

Item: 133

UI 93123812
AU Kent CR
AU Edwards SM
AU McMillan TJ
TI Mutation induction by ionizing radiation in three human bladder tumour cell lines.
SO Int J Radiat Biol 1993 Jan;63(1):1-5
JT INTERNATIONAL JOURNAL OF RADIATION BIOLOGY
AD Radiotherapy Research Unit, Institute of Cancer Research, Sutton, Surrey, UK.
LA Eng
AB Mutation induction at the hypoxanthine-guanine phosphoribosyl transferase (hprt) locus has been studied in three human bladder tumour cell lines of varying radiosensitivity. U1-S40b, a radiosensitive mutant clone of MGH-U1, has been previously reported to show no difference in split-dose recovery or low dose-rate sparing, but to have

an impaired repair fidelity when compared to its parent line. In this paper we have shown that U1-S40b is less mutable at the hprt locus at a similar level of survival. This may represent an increased incidence of severe or non-repairable lesions, making hprt- mutants poorly recoverable in U1-S40b when compared to MGH-U1. No difference was seen in mutation induction between MGH-U1 and RT112, another human bladder tumour cell line of similar radiosensitivity to MGH-U1.

PT JOURNAL ARTICLE
MJ Bladder Neoplasms /Genetics
MJ Carcinoma Transitional Cell /Genetics
MJ Mutation
MJ Radiation Effects
MI Cell Survival /Genetics
MI Cobalt Radioisotopes
MI Dose-Response Relationship, Radiation
MI Gamma Rays
MI Human
MI Hypoxanthine Phosphoribosyltransferase /Genetics
MI In Vitro
MI Support, Non-U.S. Gov't
MI Tumor Cells Cultured /Radiation Effects

Item: 134

UI 93155426
AU Dederich DN
TI Laser/tissue interaction: what happens to laser light when it strikes tissue?
SO J Am Dent Assoc 1993 Feb;124(2):57-61
JT JOURNAL OF THE AMERICAN DENTAL ASSOCIATION
AD Division of Biomaterials, Faculty of Dentistry, Univeristy of Alberta.
LA Eng
AB Several factors influence laser/tissue interactions, and various combinations of these factors could damage tissues. This article examines where laser energy goes when it strikes tissue and how it effects tissues during laser treatment.
PT JOURNAL ARTICLE
MJ Lasers
MJ Radiation Effects
MI Absorption
MI Human
MI Optics
MI Thermal Conductivity

Item: 135

UI 93165905
TI Proceedings of the American Statistical Association Conference on Radiation and Health. Radiation Risk and Interactions. South Carolina, June 28-July 2, 1992. Abstracts.
SO Radiat Res 1993 Jan;133(1):116-40
JT RADIATION RESEARCH

LA Eng
PT CONGRESS
PT OVERALL
MJ Neoplasms, Radiation-Induced
MJ Radiation Effects
MJ Radiation Injuries
MI Human

Item: 136

UI 93181150
AU Iinuma TA
AU Tateno Y
TI [Estimation of risk due to radiation exposure in the mass screening of cancer in Japan]
SO Nippon Igaku Hoshasen Gakkai Zasshi 1993 Jan 25;53(1):57-65
JT NIPPON IGAKU HOSHASEN GAKKAI ZASSHI. NIPPON ACTA RADIOLOGICA
LA Jpn For
AB Five types of mass screening programs for cancer are performed under the auspices of the Adult Health Promoting Act of the Japanese Government. The cancers involved are those of stomach, uterus, lung, breast and colon. Radiological images are routinely used for the screening of stomach and lung cancers, and mammography will be employed in the near future. In this study, the risk due to radiation exposure in the above-mentioned screening programs was estimated for an individual who participates in the screening of each cancer annually. The dose absorbed at each screening was estimated and an additive risk model was used as the pattern of occurrence of radiation-induced cancers for simplicity. Safety was also estimated. Results showed that the risk of a shortened life-expectancy as a result of undergoing annual mass screening for breast, stomach and lung cancer was insignificant in comparison with the average life-expectancy of about 80 years for Japanese men and women, and much smaller than the benefit of mass screening expressed in terms of prolonged life-expectancy. However, it should be emphasized that a quality control program must be established to keep the dose absorbed at each X-ray screening examination as low as reasonably possible.
PT JOURNAL ARTICLE
MJ Mass Screening /Adverse Effects
MJ Neoplasms /Prevention & Control C4 C4.0
MJ Radiation Effects
MI English Abstract
MI Female
MI Human
MI Japan
MI Life Expectancy
MI Male
MI Risk
MI Support, Non-U.S. Gov't

Item: 137

UI 93197483
AU Katz R
TI Relative effectiveness of mixed radiation fields.
SO Radiat Res 1993 Mar;133(3):390
JT RADIATION RESEARCH
AD Department of Physics, University of Nebraska, Lincoln 68583-0111.
LA Eng
AB For all one-hit detectors the relative effectiveness of a mixed radiation field may be found as the dose-weighted average of the relative effectiveness of its components, segregated according to the atomic number Z and the energy T. We emphasize that this procedure is incorrect for mammalian cells, whatever the nature of the segregation.
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Comparative Study
MI Support, U.S. Gov't, Non-P.H.S.

Item: 138

UI 93212052
AU Lappa AV
AU Bigildeev EA
AU Burmistrov DS
AU Vasilyev ON
TI "Trion" code for radiation action calculations and its application in microdosimetry and radiobiology.
SO Radiat Environ Biophys 1993;32(1):1-19
JT RADIATION AND ENVIRONMENTAL BIOPHYSICS
AD Mathematical Department of St. Petersburg University, Russia.
LA Eng
AB A code for calculations of electron, ion and photon radiation action on tissue-equivalent matter (water vapor) by the Monte Carlo technique is presented. The new "fluctuation detector" method is efficient in evaluating of probability distributions and moments of absorbed energy and number of ionizations in small sites. Spatial and energy distributions of particles fluences and fluctuation characteristics of radiation action on spherical and thread-like sites of nanometer diameter are compared with various experimental and theoretical data and discussed. Non-equivalence of energy absorption and ionization events and consequences of that non-equivalence are numerically analysed. As an example of radiobiological application the yield of single- and double-strand breaks of DNA is calculated in a threshold model.
PT JOURNAL ARTICLE
MJ Models Statistical
MJ Monte Carlo Method
MJ Radiation Effects
MJ Radiobiology /Methods
MI DNA Damage /Radiation Effects
MI Radiation Dosage

Item: 139

UI 93224424
AU Little JB
TI Cellular, molecular, and carcinogenic effects of radiation.
SO Hematol Oncol Clin North Am 1993 Apr;7(2):337-52
JT HEMATOLOGY/ONCOLOGY CLINICS OF NORTH AMERICA
AD Department of Cancer Biology, Harvard School of Public Health, Boston, Massachusetts.
LA Eng
AB (1) The biologic effects of ionizing radiation at the cellular and molecular levels differ from those of many chemical agents. Radiation is a classic genotoxic agent. The important DNA lesion with respect to its cytotoxic and mutagenic effects appears to be the DNA double strand break, whereas chemotherapeutic alkylating agents induce primarily base damage from adduct formation and cross-linking. Radiation-induced mutations result primarily from large-scale structural changes in DNA as a result of mechanisms such as chromosomal deletions, rearrangements, and homologous recombination, rather than point mutation as generally observed with alkylating agents. Finally, radiation is highly cytotoxic; a significantly increased frequency of specific gene mutations is usually observed only following doses that produce significant cell killing. (2) Radiation may not be a very potent inducer of second malignant tumors, at least in most cases. This prediction is derived from the localized nature of the exposure during clinical radiotherapy, in which the dose to normal tissues is minimized, and from the fact that radiation tends to be cytotoxic rather than mutagenic. The very high doses employed in curative radiotherapy may thus kill potentially transformed cells in the field. An exception to this general prediction may be Hodgkin's disease, in which a relatively large volume of tissue is treated with lower total radiation doses. (3) We have a firm scientific basis on which to predict the carcinogenic effects of radiation at many tissue sites, owing to extensive quantitative epidemiologic data in human populations. Unlike for chemical agents, radiation can be easily detected, and the absorbed dose to critical tissues is precisely measured. Thus, we know about the sensitivity of many target tissues to radiation-induced cancer. (4) A number of factors can modify the carcinogenic effects of radiation. It is likely that important interactive effects will occur between radiation and chemotherapeutic alkylating agents, which may depend upon the timing and order of the treatments as well as the particular agent(s) employed. (5) Genetic predisposition to radiation-induced cancer may be a confounding factor in the prediction of its effects in any given individual.
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Neoplasms, Radiation-Induced /Etiology
MJ Radiation Effects
MJ Radiation Injuries /Genetics
MJ Radiation Ionizing
MI Animal

MI Dose-Response Relationship, Radiation
MI Human
MI Mutation
MI Neoplasms, Radiation-Induced /Genetics

Item: 140

UI 93226719
AU Shal'nova GA
AU Klemparskaia NN
AU Somova EP
AU Smirnova OV
AU Isichenko IB
AU Shikhodyrov VV
TI [Synergism and interference in the combined biological action of ionizing and SHF radiation]
SO Radiobiologiia 1993 Jan-Feb;33(1):128-32
JT RADIOBIOLOGIIA
LA Rus For
AB In experiments with 933 (CBA x C57Bl)F1 mice it has been found that with any variant of alternation and sequence of single ionizing and SHF irradiation with lethal doses, the radiation affection caused by gamma quanta is aggravated. Preirradiation with gamma or SHF radiation ameliorates the severity of the affection caused by the subsequent SHF radiation. Parenteral injection of colloidal sulfur 60 min before SHF radiation causes a 2-5-fold increase in the survival rate of exposed and protected mice as compared to unprotected animals.
PT JOURNAL ARTICLE
MJ Radiation Effects
MI Animal
MI Colloids
MI Comparative Study
MI Dose-Response Relationship, Radiation
MI Drug Screening
MI English Abstract
MI Gamma Rays
MI Mice
MI Mice Inbred CBA
MI Mice Inbred C57BL
MI Radiation
MI Radiation Injuries Experimental /Mortality
MI Radiation Injuries Experimental /Prevention & Control
MI Radiation-Protective Agents /Therapeutic Use
MI Radiation Ionizing
MI Sulfur /Therapeutic Use

Item: 141

UI 93234719
AU Kruglikov IL
TI On the radiation-acoustic effect in radiobiology [letter]
SO Radiat Res 1993 Apr;134(1):123-4

JT RADIATION RESEARCH
LA Eng
PT LETTER
MJ Acoustics
MJ Radiation Effects
MJ Radiobiology

Item: 142

UI 93255144
AU Kimura H
AU Higuchi H
AU Iyehara-Ogawa H
AU Kato T
TI Sequence analysis of X-ray-induced mutations occurring in a cDNA of the human hprt gene integrated into mammalian chromosomal DNA.
SO Radiat Res 1993 May;134(2):202-8
JT RADIATION RESEARCH
AD Department of Experimental Radiology, Shiga University of Medical Science, Japan.
LA Eng
AB Sequences of 38 independent X-ray-induced mutations in a cDNA of the human hypoxanthine phosphoribosyltransferase (hprt) gene were analyzed after it was integrated into mammalian chromosomes as part of a shuttle vector. There were 15 base substitutions (39%), 9 frameshifts (24%), 11 deletions (29%), and 3 other mutations (8%) of two kinds. Radiation-induced mutations were found throughout the coding region of the gene. Base substitution mutations occurred more often at A:T sites than at G:C sites, and there were more transversions than transitions. Most of the frameshifts and deletions had short direct repeats or a run of several identical bases at the site of the mutation. A slippage misalignment mechanism, suggested previously, can account for the generation of these classes of mutations. The kinds, distribution, and possible mechanism of X-ray-induced mutations were similar to those of spontaneous mutations.
PT JOURNAL ARTICLE
MJ DNA /Radiation Effects
MJ Hypoxanthine Phosphoribosyltransferase /Genetics
MJ Mutation
MJ Radiation Effects
MI Animal
MI Base Sequence
MI Cell Line
MI Chromosomes
MI DNA /Genetics
MI Human
MI Mice
MI Molecular Sequence Data
MI Radiation Genetics
MI Support, Non-U.S. Gov't

Item: 143

UI 93259807
AU Saenger EL
TI Reflections on NCRP Statement No. 7 [letter]
SO Health Phys 1993 May;64(5):549
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Neoplasms /Etiology C4 C4.0
MJ Radiation Effects
MI Human
MI Probability
MI Time Factors

Item: 144

UI 93259808
AU Jose DE
TI Re: Probability of causation [letter]
SO Health Phys 1993 May;64(5):549-50
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Neoplasms /Etiology C4 C4.0
MJ Radiation Effects
MI Human
MI Probability
MI Time Factors

Item: 145

UI 93259809
AU Gray JE
TI Clinical viewpoint on NCRP probability of causation statement [letter]
SO Health Phys 1993 May;64(5):550-1
JT HEALTH PHYSICS
LA Eng
PT LETTER
MJ Neoplasms /Etiology C4 C4.0
MJ Radiation Effects
MI Human
MI Probability
MI Time Factors

Item: 146

UI 93266372
AU Loken MK
AU Feinendegen LE
TI Radiation hormesis. Its emerging significance in medical practice [see comments]
SO Invest Radiol 1993 May;28(5):446-50
JT INVESTIGATIVE RADIOLOGY

AD University of Minnesota Hospital, Department of Radiology, Minneapolis 55455.
LA Eng
AB Because of the strong scientific evidence in support of radiation hormesis, we can no longer ignore this concept. There is, however, need for additional, carefully documented investigations in selected biological systems exposed to LLIR if the matter of radiation hormesis is to be settled once and for all. This need should be addressed without delay, as the matter of benefits derived from LLIR exposure could have major economic and epidemiologic implications. If radiation hormesis becomes firmly established, the requirements for LLIR protection might be relaxed, leading to a sizable cost saving, and the fear of nuclear energy should abate. If this happens, the evergrowing problems associated with energy production from fossil fuels on the one hand and the continued improvements in nuclear reactor technology on the other, will force a world-wide reassessment of risks and benefits associated with nuclear energy. Furthermore, as discussed herein, the major source of exposure from background radiation comes from the inhalation of radon gas. The very high cost associated with effective radon abatement would lead to an abandonment of this mitigation effort so that the limited funds available to improve public health world wide could be used more effectively elsewhere. Thus, we conclude that the time is now to consider eliminating the concept of the radiation paradigm from scientific thinking. We must not continue to unequivocally accept the propositions that 1) all radiation is harmful and 2) that the health effects of LLIR may be directly inferred by scaling down from known deleterious high-dose effects, in as much as there is no scientific basis for an agent not to cause multiple effects.(ABSTRACT TRUNCATED AT 250 WORDS)

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MJ Radiation Protection
MI Animal
MI Background Radiation
MI Dose-Response Relationship, Radiation
MI Human
MI Maximum Permissible Exposure Level
MI Neoplasms, Radiation-Induced /Epidemiology
MI Occupational Diseases /Epidemiology
MI Physical Stimulation
MI Radon

Item: 147

UI 93266373
AU Webster EW
TI Hormesis and radiation protection [comment]
SO Invest Radiol 1993 May;28(5):451-3
JT INVESTIGATIVE RADIOLOGY

AD Department of Radiology, Massachusetts General Hospital, Boston 02114.
LA Eng
PT COMMENT
PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Protection
MI Background Radiation
MI Dose-Response Relationship, Radiation
MI Female
MI Human
MI Male
MI Maximum Permissible Exposure Level
MI Neoplasms, Radiation-Induced /Epidemiology
MI Occupational Diseases /Epidemiology
MI Physical Stimulation

Item: 148

UI 93296689
AU Salvatore JR
TI Human health effects of nonionizing electromagnetic radiation [letter]
SO S D J Med 1993 May;46(5):175
JT SOUTH DAKOTA JOURNAL OF MEDICINE
LA Eng
PT LETTER
MJ Radiation Effects
MJ Radiation, Non-Ionizing
MI Electricity /Adverse Effects
MI Human
MI Microwaves /Adverse Effects
MI Neoplasms, Radiation-Induced /Etiology
MI Radiation, Non-Ionizing /Adverse Effects

Item: 149

UI 93303307
AU Yorke ED
AU Kutcher GJ
AU Jackson A
AU Ling CC
TI Probability of radiation-induced complications in normal tissues with parallel architecture under conditions of uniform whole or partial organ irradiation.
SO Radiother Oncol 1993 Mar;26(3):226-37
JT RADIOTHERAPY AND ONCOLOGY
AD George Washington University Hospital, Washington, DC 20037.
LA Eng
AB A biologically based model is developed for normal tissue complication probability as a function of dose and irradiated volume fraction for organs such as the kidney and the lung. The organ is assumed to be composed of functional subunits (FSUs) which are arranged in a parallel architecture. The complication is produced only if a sufficiently large

fraction of the FSUs are inactivated by radiation and an FSU is inactivated only when all the clonogenic cells within it are killed. The linear-quadratic model is used for the dose-response of individual cells within an FSU. The predictions of this model are compared with those of an empirical power law function for uniform whole and partial organ irradiation.

PT JOURNAL ARTICLE
MJ Models Biological
MJ Radiation Effects
MJ Radiation Injuries /Etiology
MI Dose-Response Relationship, Radiation
MI Human
MI Kidney /Pathology
MI Kidney /Radiation Effects
MI Liver /Pathology
MI Liver /Radiation Effects
MI Lung /Pathology
MI Lung /Radiation Effects
MI Probability
MI Radiation Dosage
MI Radiation Injuries /Pathology
MI Radiation Tolerance
MI Radiobiology
MI Stem Cells /Pathology
MI Stem Cells /Radiation Effects
MI Support U S Govt P H S

Item: 150

UI 93309811
AU Hart G
TI Question of the month--October 1992. Why is zero radiation considered good? [letter]
SO Nucl Med Commun 1993 Jun;14(6):506-7
JT NUCLEAR MEDICINE COMMUNICATIONS
LA Eng
PT LETTER
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Human

Item: 151

UI 93324658
AU Borodkin PA
AU Zainulin VG
TI [The biological effects of irradiation and hyperthermia]
SO Radiobiologiya 1993 May-Jun;33(3):365-72
JT RADIOBIOLOGIYA
LA Rus For
AB Experimental data on the effects of radiation and hyperthermia on Chinchilla rabbits are presented. Multiple exposure to heat (40 degrees

C, 20 min) between two radiation fractions was shown to influence favourably such haematological indexes as leukocyte and erythrocyte number and life-span of irradiated animals. Extra (to irradiation + heat) hyperthermia applied immediately before irradiation increased the radiation effect.

PT JOURNAL ARTICLE
MJ Hyperthermia Induced /Adverse Effects
MJ Radiation Effects
MI Animal
MI Body Temperature /Radiation Effects
MI Cause of Death
MI Comparative Study
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Erythrocyte Count /Radiation Effects
MI Hyperthermia Induced /Methods
MI Leukocyte Count /Radiation Effects
MI Rabbits
MI Radiation Injuries Experimental /Blood
MI Radiation Injuries Experimental /Mortality
MI Time Factors

Item: 152

UI 93326731
AU Bell J
TI Trends in the incidence of childhood leukemia between 1961 and 1985 and trends in radiation exposure in parents.
SO Health Rep 1993;5(1):111-5
JT HEALTH REPORTS
AD Thames Cancer Registry, Sutton, UK.
LA Eng
LA Fre For
PT JOURNAL ARTICLE
MJ Leukemia, Radiation-Induced /Epidemiology
MJ Parents
MJ Radiation Effects
MI Adult
MI Background Radiation
MI Child
MI Child Preschool
MI Environmental Exposure
MI Female
MI Great Britain /Epidemiology
MI Human
MI Incidence
MI Infant
MI Male
MI Radiation Dosage
MI Radioactive Fallout
MI Risk Factors

Item: 153

UI 93348374
AU Cardinale AE
AU Lagalla R
TI [Prolegomena to nonionizing radiative energies. Their biological effects and the protection elements. I. (editorial)]
SO Radiol Med (Torino) 1993 Jul-Aug;86(1-2):1-15
JT RADIOLOGIA MEDICA
LA Ita For
PT EDITORIAL
PT REVIEW
PT REVIEW, ACADEMIC
MJ Radiation Effects
MJ Radiation Protection
MI Electromagnetic Fields
MI Human
MI Infrared Rays
MI Lasers
MI Microwaves
MI Radio Waves
MI Radiology
MI Radiometry
MI Ultraviolet Rays

Item: 154

UI 93364933
AU Abramovitch K
AU Thomas LP
TI X-radiation: potential risks and dose-reduction mechanisms.
SO Compendium 1993 May;14(5):642-8; quiz 648
JT COMPENDIUM
AD Department of Oral Diagnostic Sciences, Dental Branch, University of Texas Health Science Center at Houston, Texas.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Dosage
MJ Radiation Effects
MJ Radiography Dental /Adverse Effects
MI Human
MI Radiography Dental /Instrumentation
MI Radiography Dental /Methods

Item: 155

UI 93379393
AU Yakovlev AYu
AU Tsodikov AD
AU Bass L

TI A stochastic model of hormesis.
SO Math Biosci 1993 Aug;116(2):197-219
JT MATHEMATICAL BIOSCIENCES
AD Department of Applied Mathematics, St. Petersburg Technical University,
Russia.
LA Eng
AB In order to describe the life-prolonging effect of some agents that are
harmful at higher doses, ionizing radiations in particular, a stochastic
model is developed in terms of accumulation and progression of
intracellular lesions caused by the environment and by the agent itself.
The processes of lesion repair, operating at the molecular and cellular
level, are assumed to be responsible for this hormesis effect within the
framework of the proposed model. Properties of lifetime distributions,
derived for analysis of animal experiments with prolonged and acute
irradiation, are given special attention. The model provides efficient
means of interpreting experimental findings, as evidenced by its
application to analysis of some published data on the hormetic effects
of prolonged irradiation and of procaine on animal longevity.
PT JOURNAL ARTICLE
MJ Models Biological
MJ Radiation Effects
MJ Stochastic Processes
MI Animal
MI Cell Death
MI Dose-Response Relationship, Radiation
MI DNA Damage
MI DNA Repair
MI Immunity
MI Support, Non-U.S. Gov't

Item: 156

UI 93379500
AU Bochkov NP
TI [Analytic review of cytogenetic studies after the Chernobyl accident]
SO Vestn Ross Akad Med Nauk 1993;(6):51-6
JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, ACADEMIC
MJ Accidents Occupational
MJ Chromosome Aberrations /Genetics
MJ Lymphocytes /Radiation Effects
MJ Nuclear Reactors
MJ Radiation Injuries /Genetics
MJ Radiation Monitoring
MI Cytogenetics
MI Human
MI Radiation Dosage
MI Radiation Effects

MI Radioactive Pollutants
MI Ukraine

Item: 157

UI 93391631
AU Tomadakis MM
AU Sotirchos SV
TI Random paths in random arrays of cylinders.
SO Radiat Res 1993 Sep;135(3):302-11
JT RADIATION RESEARCH
AD Department of Chemical Engineering, University of Rochester, New York
14627-1066.
LA Eng
AB Distributions associated with random tracks in bodies are important to understanding the effects of radiation on objects and their response to it. Results of computer simulations are presented for the distribution densities, average lengths, and relative frequencies of the various types of random tracks resulting from the traversal of random arrays of cylinders by random lines. We consider arrays consisting of freely overlapping long circular cylinders distributed randomly with their axes parallel to a line or a plane, or oriented randomly in the three-dimensional space. The problem of random tracks lying outside the cylinders (external random tracks) is treated analytically, while the distributions of random tracks found within the cylinders (internal random tracks) are determined using a simulation procedure based on a discrete step-by-step random walk mechanism applied in finite samples of the arrays. The numerical results are used to validate various general analytical results for the distribution densities and average lengths of random tracks in structures of arbitrary shape. It is found that the distributions of internal random tracks exhibit strong dependence on the cylinder volume fraction, while the external random tracks are distributed independently of the cylinder volume fraction for all three cases of orientation distribution. At the limit of high cylinder volume fraction, the internal random track distributions approach the distributions of the external random tracks, while at the other extreme, they become, as expected, identical to those determined analytically for a single infinite cylinder.
PT JOURNAL ARTICLE
MJ Computer Simulation
MJ Radiation Effects
MJ Radiometry /Methods
MI Support, Non-U.S. Gov't

Item: 158

UI 93318430
AU Kozhemiakin LA
AU Kraevoi SA
TI [The molecular mechanisms of exposure to ionizing radiation]
SO Voen Med Zh 1993 Apr;(4):33-7, 80
JT VOENNO-MEDITSINSKII ZHURNAL

LA Rus For
 AB The article studies biochemical processes which occur in man's organism after the influence of ionizing radiation. The authors thoroughly describe the mechanisms of radioactively induced free radical reactions, radiation injuries of membranes, post-radiation disorders in cellular energy supply and cellular cyclatic system.
 PT JOURNAL ARTICLE
 PT REVIEW
 PT REVIEW, TUTORIAL
 MJ Radiation Effects
 MI Cell Death /Radiation Effects
 MI Cyclic AMP /Radiation Effects
 MI Cyclic GMP /Radiation Effects
 MI Energy Metabolism /Radiation Effects
 MI English Abstract
 MI Free Radicals /Radiation Effects
 MI Human
 MI Lipid Peroxidation /Radiation Effects

Item: 159

UI 94001288
 AU Marani E
 AU Feirabend HK
 TI A nonthermal microwave effect does not exist [editorial]
 SO Eur J Morphol 1993 Mar-Jun;31(1-2):141-4
 JT EUROPEAN JOURNAL OF MORPHOLOGY
 LA Eng
 PT EDITORIAL
 MJ Microwaves
 MI Cells /Radiation Effects A11 A11.0
 MI Heat
 MI Hydrogen Bonding /Radiation Effects
 MI Macromolecular Systems
 MI Radiation Effects
 MI Water

Item: 160

UI 94005360
 AU Chernikova SB
 AU Gotlib VIa
 AU Pelevina II
 TI [Effect of low-dose ionizing radiation on radiosensitivity to the next irradiation]
 SO Radiats Biol Radioecol 1993 Jul-Aug;33(4):537-41
 JT RADIATIONNAIA BIOLOGIYA, RADIOECOLOGIYA
 LA Rus For
 AB The action of low dose irradiation on the radiosensitivity of HeLa cells was studied. It was shown that preliminary irradiation of cells by dose of 3 cGy induces the adaptive response: decreasing of number of cells with micronuclei after posterior irradiation by doses of 2.0 and 3.0 Gy.

The maximum level of the adaptive response is reached in 4 h and is observed in 3 cell cycles. When the dose of preliminary irradiation increases to 40 cGy the adaptive response is not observed, however the radiosensitivity of cells increases.

PT JOURNAL ARTICLE
MJ Radiation Effects
MJ Radiation Tolerance
MI Animal
MI Dose-Response Relationship, Radiation
MI English Abstract
MI Hela Cells
MI Human

Item: 161

UI 94018544
AU Petropoulos LS
AU Haacke EM
AU Brown RW
AU Boerner E
TI Predicting RF field penetration in heterogeneous bodies using a 3-D finite element approach: preliminary results.
SO Magn Reson Med 1993 Sep;30(3):366-72
JT MAGNETIC RESONANCE IN MEDICINE
AD Department of Physics, Case Western Reserve University, Cleveland, Ohio.
LA Eng
AB We present preliminary results for a 3D finite element calculation to evaluate RF penetration in conducting dielectric materials at high field strengths. A tetrahedral mesh is used along with a Coulomb gauge constraint in a finite element method that yields excellent numerical stability at high frequencies. Accuracy is verified by comparisons with analytic solutions for single-layer and multiple-layer heterogeneous systems and for a 3D spherical model. We have also compared the finite element model with experimental results presented by Foo et al., Magn. Reson. Med. 23, (1992). Agreement is very good and argues for the usefulness of the method in the calculation of RF penetration and RF power deposition effects in heterogeneous objects.

PT JOURNAL ARTICLE
MJ Magnetic Resonance Imaging
MJ Radio Waves
MI Animal
MI Electric Conductivity
MI Human
MI Models Structural
MI Radiation Effects
MI Support, Non-U.S. Gov't

Item: 162

UI 94051098
AU Harris MG
AU Buttino LM

AU Chan JC
 AU Wang M
 TI Effects of ultraviolet radiation on contact lens parameters.
 SO Optom Vis Sci 1993 Sep;70(9):739-42
 JT OPTOMETRY AND VISION SCIENCE
 AD Morton D. Sarver Laboratory for Contact Lens and Corneal Research,
 School of Optometry, University of California, Berkeley.
 LA Eng
 AB Ultraviolet (UV) radiation has been proposed as an alternative method
 for contact lens disinfection. In order for UV radiation to be
 considered a viable contact lens disinfection method, its effects on
 lens polymers and parameters must be minimal. To evaluate this, soft
 contact lenses from each of the four FDA categories, soft lenses with
 handling tints, and rigid gas permeable (RGP) lenses were exposed to UV
 radiation in a controlled laboratory setting and their parameters
 measured. After 20 h of UV exposure, we found statistically significant
 changes in at least one parameter for each lens type evaluated. Most of
 these changes were small and within the error of measurement and,
 therefore, were not considered clinically significant. However, the
 group 2 soft lenses showed an increase in all four measured
 parameters--power, center thickness, diameter, and water content. These
 changes may have an impact on lens fitting characteristics and
 performance. Other than these changes for group 2 soft lenses, 20 h of
 UV exposure appeared to have little clinical effect on the contact
 lenses evaluated. This suggests that UV radiation may prove to be a
 feasible alternative method of disinfection for most types of contact
 lenses.
 PT JOURNAL ARTICLE
 MJ Contact Lenses Hydrophilic
 MJ Radiation Effects
 MI Comparative Study
 MI Disinfection /Methods
 MI Polymers /Radiation Effects
 MI Ultraviolet Rays

Item: 163

UI 94054213
 TI Houston scientists to track Chernobyl victims.
 SO Tex Med 1993 Sep;89(9):24-5
 JT TEXAS MEDICINE
 LA Eng
 PT JOURNAL ARTICLE
 MJ Accidents
 MJ Nuclear Reactors
 MJ Radiation Effects
 MJ Registries
 MI Emigration and Immigration
 MI Human
 MI Ukraine
 MI United States

Item: 164

UI 94083877

AU Kuzin AM

TI [The key mechanisms of radiation hormesis]

SO Izv Akad Nauk Ser Biol 1993 Nov-Dec;(6):824-32

JT IZVESTIIA AKADEMII NAUK. SERIIA BIOLOGICHESKAIA

LA Rus For

AB The different cellular responses to high (suppressive) and low (stimulant) doses of atomic radiation suggest understanding of radiation hormesis, since the well developed mechanisms of damaging effect of atomic radiation (radiodamage of DNA, chromosomal aberrations, death of radiosensitive cells) cannot explain the converse effects of low stimulant radiation doses. Here the direct or indirect excitation of membrane receptors comes to the foreground. The excitation activates membrane-bound enzymes which control many vitally important processes. Now that an increasing proportion of the general population is exposed to low chronic doses of ionizing radiation, the knowledge of radiation hormesis acquires great importance, particularly, for temporal predictions of its consequences. Although this problem is far from complete understanding, it is, undoubtedly, wrong to estimate the hazard of the low radiation doses by straight extrapolation of the data obtained with much higher doses and during shorter time periods.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ Radiation Effects

MI Animal

MI Dose-Response Relationship, Radiation

MI English Abstract

MI Human

MI Phytochrome /Radiation Effects

MI Plants /Radiation Effects B6 B6.0

MI Receptors Cell Surface /Radiation Effects

Item: 165

UI 94098334

AU Miller WT

TI "Primum, non nocere" [editorial]

SO Semin Roentgenol 1993 Oct;28(4):291-2

JT SEMINARS IN ROENTGENOLOGY

LA Eng

PT EDITORIAL

MJ Radiation Injuries /Prevention & Control

MI Human

MI Radiation Effects

MI Radiotherapy /Adverse Effects

Item: 166

UI 94098335

AU Libshitz HI
TI Malignancies may be treated by surgical, radiation, or medical oncologists [editorial]
SO Semin Roentgenol 1993 Oct;28(4):293
JT SEMINARS IN ROENTGENOLOGY
LA Eng
PT EDITORIAL
MJ Diagnostic Imaging
MJ Neoplasms /Radiotherapy C4 C4.0
MI Human
MI Radiation Effects

Item: 167

UI 94098337
AU Fajardo LF
TI Basic mechanisms and general morphology of radiation injury.
SO Semin Roentgenol 1993 Oct;28(4):297-302
JT SEMINARS IN ROENTGENOLOGY
AD Department of Pathology, Stanford University School of Medicine, Palo Alto, CA.
LA Eng
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Injuries /Etiology
MJ Radiation Injuries /Pathology
MI Human
MI Radiation Effects
MI Radiation Injuries /Physiopathology
MI Radiation Ionizing

Item: 168

UI 94111767
AU Yamanaka R
AU Tanaka R
AU Yoshida S
TI Effects of irradiation on cytokine production in glioma cell lines.
SO Neurol Med Chir (Tokyo) 1993 Nov;33(11):744-8
JT NEUROLOGIA MEDICO-CHIRURGICA
AD Department of Neurosurgery, Niigata University.
LA Eng
AB The effects of irradiation on cytokine production in glioma cell lines, NP1, NP2 and NP3, were studied. Culture supernatants were collected after 6, 24, 48 or 72 hours and the concentrations of interleukin (IL)-6 and IL-8 measured by enzyme-linked immunosorbent assay. Spontaneous and IL-1 beta-stimulated productions were analyzed. Some cells were given a single dose of Lineac irradiation (10 or 20 Gy). Production of IL-6 (with or without IL-1 beta stimulation) increased gradually to a maximum after 72 hours, more in the 20 Gy-irradiated cells than 10 Gy cells ($p < 0.01$). Production of IL-8 increased gradually to a maximum after 48 or

72 hours. Spontaneous production of IL-8 increased more in 20 Gy-irradiated cells than 10 Gy cells after 6 and 24 hours ($p < 0.01$), but increased more in 10 Gy cells than 20 Gy cells after 48 and 72 hours ($p < 0.01$). The production of IL-8 stimulated by IL-1 beta increased more in 10 Gy cells than 20 Gy cells 24 hours later ($p < 0.01$). IL-6 and IL-8 production differed in the response to irradiation. Our data suggest that bidirectional communication between the immune system and glioma cells changes after radiotherapy.

PT JOURNAL ARTICLE
MJ Glioma /Metabolism
MJ Interleukin 6 /Biosynthesis
MJ Interleukin 8 /Biosynthesis
MJ Radiation Effects
MI Human
MI Interleukin 1 /Pharmacology
MI Tumor Cells Cultured /Drug Effects
MI Tumor Cells Cultured /Radiation Effects

Item: 169

UI 94111768
AU Yamanaka R
AU Tanaka R
AU Yoshida S
TI Effects of irradiation on the expression of the adhesion molecules (NCAM, ICAM-1) by glioma cell lines.
SO Neurol Med Chir (Tokyo) 1993 Nov;33(11):749-52
JT NEUROLOGIA MEDICO-CHIRURGICA
AD Department of Neurosurgery, Niigata University.
LA Eng
AB The expression of the intercellular adhesion molecule-1 (ICAM-1) and neural cell adhesion molecule (NCAM) by glioma cell lines was investigated. The effects of interferon (IFN)-gamma or irradiation on the expression was also assessed. Two glioma cell lines showed more than 75% NCAM-positive cells. After treatment with IFN-gamma or irradiation, another three cell lines were induced to show more than 50% positive cells. Three glioma cell lines showed more than 50% ICAM-1-positive cells. After treatment with IFN-gamma, another two cell lines were induced to show more than 50% positive cells. After treatment with irradiation, one more cell line was induced to show more than 50% positive cells. ICAM-1 and NCAM expression by glioma cell lines is susceptible to modulation by IFN-gamma or irradiation.

PT JOURNAL ARTICLE
MJ Cell Adhesion Molecules /Biosynthesis
MJ Cell Adhesion Molecules Neuronal /Biosynthesis
MJ Glioma /Metabolism
MJ Radiation Effects
MI Cell Line
MI Human
MI Interferon Type II /Pharmacology
MI Tumor Cells Cultured /Drug Effects

MI Tumor Cells Cultured /Radiation Effects

Item: 170

UI 94122846

AU Ivanovskii IuA

TI [Radiation hormesis, radiation stimulation or hyperfunctional effect of ionizing radiation? (letter)]

SO Radiats Biol Radioecol 1993 Sep-Oct;33(5):760-4

JT RADIATIONNAIA BIOLOGIIA, RADIOECOLOGIIA

LA Rus For

AB The term "radiation hormesis" is thought of unsatisfactory one because it is difficult to define such concepts as "benefit", "harm" or "contributory" with respect to irradiation of biological species. The term does not take into account a fact that large doses stimulate the same biological processes and functions as low ones. The definition of the effect of radiation stimulation as physiological hyperfunction response of biological object to ionising radiation is proposed.

PT LETTER

MJ Radiation Dosage

MJ Radiation Effects

MI Animal

MI English Abstract

MI Human

MI Radiation Ionizing

Item: 171

UI 94174025

AU Fowler JF

TI Time-variable dose rate in HDR stepping source brachytherapy [letter; comment]

SO Radiother Oncol 1993 Dec;29(3):355-6

JT RADIOTHERAPY AND ONCOLOGY

LA Eng

PT COMMENT

PT LETTER

MJ Brachytherapy /Methods

MJ Radiotherapy Dosage

MI Human

MI Radiation Effects

MI Time Factors

Item: 172

UI 94075110

AU Ziemer PL

TI Future role of the health physicist [see comments]

SO Health Phys 1994 Jan;66(1):3-9

JT HEALTH PHYSICS

AD Purdue University, West Lafayette, IN 47907.

LA Eng

AB What is the future role of the health physicist? Ten external societal

forces and five internal forces that may have significant impact on the health physics profession are presented. What changes are taking place in our profession that will shape the way we conduct our business? What changes are likely in technology, education and training? Methods of strengthening the educational area of our profession are proposed. Comments to the author are welcomed.

PT JOURNAL ARTICLE
MJ Health Physics /Trends
MI Biotechnology
MI Energy-Generating Resources
MI Environmental Health
MI Health Physics /Education
MI Human
MI Information Systems
MI Radiation Effects
MI Risk
MI Technology Radiologic

Item: 173

UI 94150587
AU Macilwain C
TI US admits to use of humans in radiation experiments [news]
SO Nature 1994 Jan 6;367(6458):4
JT NATURE
LA Eng
PT NEWS
MJ Human Experimentation
MJ Radiation Effects
MI Ethics
MI Government Agencies
MI Human
MI United States

Item: 174

UI 94177078
AU Morris JA
TI Childhood cancer around nuclear installations.
SO Eur J Cancer Prev 1994 Jan;3(1):15-21
JT EUROPEAN JOURNAL OF CANCER PREVENTION
AD Department of Pathology, Lancaster Moor Hospital, UK.
LA Eng
AB There is an increased incidence of childhood cancer, particularly lymphocytic neoplasia, in children who live close to nuclear installations. Possible causes are radiation-induced germ line mutations in occupationally exposed parents, or radiation-induced somatic mutation in the developing cells of the fetus or child due to increased environmental exposure. An alternative possibility is that the socioeconomic characteristics of the communities lead to an altered response to infection in childhood and this increases the risk of lymphocytic neoplasia in particular. For sites other than Sellafield in

the UK, the evidence linking childhood cancer to radiation is unconvincing and it is possible that the increase is entirely due to the social characteristics of the communities. In Seascale, a village close to Sellafield, however, the increase is more marked and it is unlikely that social factors alone can explain the change. Furthermore, the environmental discharges from Sellafield are much higher than from other sites, and approach levels which could have a measurable effect on cancer incidence. In spite of a great deal of epidemiological investigation, no clear answer is available. It is argued that in order to solve the problem we must use new knowledge from molecular genetics and measure the rate of somatic mutation in those who work in the nuclear industry and in those who live nearby.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Neoplasms, Radiation-Induced /Etiology
MJ Nuclear Reactors
MJ Power Plants
MI Child
MI Human
MI Radiation Effects
MI Risk Factors
MI Age 18 and under

Item: 175

UI 94181739
AU Evans HH
TI Failla Memorial Lecture. The prevalence of multilocus lesions in radiation-induced mutants.
SO Radiat Res 1994 Feb;137(2):131-44
JT RADIATION RESEARCH
AD Department of Radiology, Case Western Reserve University, Cleveland, Ohio 44106-4942.
LA Eng
AB In L5178Y mouse lymphoblasts, ionizing radiation-induced mutant frequencies were dramatically higher when the genetic marker analyzed was heterozygous (tk+/tk-) than when hemizygous (tk+/tk0 or hprt+/hprt0). In contrast, base-change mutagens induced similar mutant frequencies at heterozygous and hemizygous loci. These results indicate that the majority of radiation-induced mutants harbor multilocus lesions, and that these mutants are poorly recovered when the target gene is in a hemizygous chromosomal region. Dose-rate dependence of radiation-induced mutant frequency was demonstrated at the heterozygous tk locus but not at the hemizygous hprt locus; in a cell line deficient in the rejoining of DNA double-strand breaks (DSBs), no dose-rate dependence was observed for either locus. The majority of TK-/- mutants, whether spontaneous or induced by X, alpha-particle or UV radiation, or by photosensitization, showed loss of the entire active tk allele. The percentage of TK-/- mutants exhibiting inactivation of galactokinase, encoded by the neighboring gk gene, was high in UV

repair-deficient cells exposed to UV radiation and in DNA DSB repair-deficient lines exposed to X radiation. Thus the presence of unrepaired DNA lesions, whether DSBs or pyrimidine dimers, appears to result in an increase in the percentage of mutants harboring multilocus lesions.

PT CURRENT BIOG-OBIT
PT HISTORICAL ARTICLE
PT JOURNAL ARTICLE
MJ Mutation
MJ Radiation Effects
MI Animal
MI Cell Line
MI DNA Damage
MI DNA Repair
MI DNA Topoisomerase (ATP-Hydrolysing) /Antagonists & Inhibitors
MI History of Medicine 20th Cent
MI Hypoxanthine Phosphoribosyltransferase /Genetics
MI Mice
MI Portraits
MI Radiology /History
MI Support, U.S. Gov't, Non-P.H.S.
MI Support U S Govt P H S
MI Thymidine Kinase /Genetics
MI United States

Item: 176

UI 94211276
AU Macilwain C
TI US agencies split over inquiry into effects of radiation experiments
[news]
SO Nature 1994 Apr 28;368(6474):781
JT NATURE
LA Eng
PT NEWS
MJ Human Experimentation
MJ Radiation Effects
MI Government Agencies
MI National Institutes of Health U S
MI United States
MI United States Dept of Health and Human Services

Item: 177

UI 94223943
AU Yalow RS
TI Concerns with low-level ionizing radiation.
SO Mayo Clin Proc 1994 May;69(5):436-40
JT MAYO CLINIC PROCEEDINGS
AD Veterans Affairs Medical Center, Bronx, New York.
LA Eng
AB OBJECTIVE: To clarify the effects of ionizing radiation and to dispel

fear associated with the use of radioactivity in medical diagnosis and therapy. DESIGN: Studies of populations in geographic areas of increased cosmic radiation and high natural background radiation, radiation-exposed workers, patients with medical exposure to radioactivity, and accidental exposure are reviewed. RESULTS: No reproducible evidence shows harmful effects associated with increases in background radiation of 3 to 10 times the usual levels. American military personnel who participated in nuclear testing had no increase in leukemia or other cancers. Among 22,000 patients with hyperthyroidism treated with ¹³¹I (mean dose, 10 rem), no increased incidence of leukemia was found in comparison with 14,000 similar patients who received other treatment. A 20-year follow-up of 35,000 patients who underwent ¹³¹I uptake tests for evaluation of thyroid function revealed that those studied for other than a suspected tumor had only 60% of the thyroid cancers expected in a control group. Although early studies showed that high exposures to miners to radon and its daughters resulted in a substantial increase in lung cancer, no evidence exists for an increase in lung cancer among nonsmokers exposed to increased radon levels in the home. CONCLUSION: Perhaps the association of radiation with the atomic bomb has created a climate of fear about the possible dangers of radiation at any level; however, no evidence indicates that current radiation exposures associated with medical usage are harmful.

PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Accidents Occupational
MI Background Radiation
MI Environmental Exposure
MI Human
MI Nuclear Reactors
MI Occupational Exposure
MI Radioisotopes /Adverse Effects
MI Radioisotopes /Diagnostic Use
MI Radiotherapy /Adverse Effects
MI Radon
MI Ukraine

Item: 178

UI 94239043
AU Hei TK
AU Bedford J
AU Waldren CA
TI 53 mutation hotspot in radon-associated lung cancer [letter; comment]
SO Lancet 1994 May 7;343(8906):1158-9
JT LANCET
LA Eng
PT COMMENT
PT LETTER

MJ Genes p53 /Radiation Effects
MJ Lung Neoplasms /Etiology
MJ Mining
MJ Neoplasms, Radiation-Induced /Etiology
MJ Occupational Diseases /Etiology
MJ Point Mutation
MJ Radiation Effects
MJ Radon /Adverse Effects
MI Human
MI Lung Neoplasms /Genetics
MI Occupational Diseases /Genetics
MI Uranium

Item: 179

UI 94240231
AU Suzuki S
TI The "synergistic" action of mixed irradiation with high-LET and low-LET radiation.
SO Radiat Res 1994 May;138(2):297-301
JT RADIATION RESEARCH
AD Department of Radiology, University of Tokyo, Japan.
LA Eng
PT JOURNAL ARTICLE
MJ Radiation
MJ Radiation Effects
MI Animal
MI Cell Survival /Radiation Effects
MI Cells Cultured
MI Cricetulus
MI DNA /Radiation Effects
MI Energy Transfer
MI Hamsters
MI Nomenclature

Item: 180

UI 94248395
AU Wagner RH
AU Boles MA
AU Henkin RE
TI Treatment of radiation exposure and contamination.
SO Radiographics 1994 Mar;14(2):387-96
JT RADIOGRAPHICS
AD Department of Radiology, Loyola University, Stritch School of Medicine, Maywood, IL 60513.
LA Eng
AB For treatment of radiation accident victims, procedures for handling trauma patients must be modified to ensure proper care and prevent contamination of hospital facilities and personnel. The radiation accident management plan should be instituted in advance. Exposure and contamination victims are treated differently. Exposed patients have

sustained either partial or whole-body exposure but do not carry radioactive material; contaminated patients have also been exposed, but they have radioactive material either externally or internally and thus are continually exposed to radiation until the contaminant is removed. The treatment area and personnel must be protected with use of isolation, clean transfer techniques, and appropriate attire. After clothing has been removed, the patient's medical condition is assessed, stabilized, and treated. Samples from the affected areas, eyes, nose, and mouth are obtained for analysis and planning definitive treatment. For external contamination, the skin is washed with normal saline or mild detergent. Treatment of internal contamination is based on the isotopes involved and may include saturation of the crucial organ, dilution therapy, isotope displacement, or use of chelating agents. After a survey to ensure that no residual contamination remains, the patient is transferred to a care unit. Effects of exposure are seen over periods ranging from days to weeks to years, depending on the total dose received. Knowing the dose allows clinicians to predict what effects may ultimately occur.

PT JOURNAL ARTICLE
MJ Accidents
MJ Radiation Injuries /Therapy
MI Chelating Agents /Therapeutic Use
MI Decontamination /Methods
MI Emergency Service Hospital
MI Human
MI Irrigation
MI Medical Staff
MI Occupational Exposure
MI Radiation Dosage
MI Radiation Effects
MI Radiation Ionizing
MI Support, Non-U.S. Gov't

Item: 181

UI 94259714
AU Riley SA
TI Exposure of the orthopaedic surgeon to radiation [letter; comment]
SO J Bone Joint Surg Am 1994 Jun;76(6):952-3
JT JOURNAL OF BONE AND JOINT SURGERY. AMERICAN VOLUME
LA Eng
PT COMMENT
PT LETTER
MJ Occupational Exposure
MJ Orthopedics
MJ Radiation Effects
MI Fluoroscopy /Adverse Effects
MI Human

Item: 182

UI 94284537

AU Linder SH

TI Ambiguous evidence and institutional interpretation: an alternative view of electric and magnetic fields.

SO J Health Polit Policy Law 1994 Spring;19(1):165-90

JT JOURNAL OF HEALTH POLITICS, POLICY AND LAW

AD University of Texas-Houston.

LA Eng

AB There is a notable lack of scientific consensus on whether electric and magnetic fields (EMF) constitute a health risk in need of systematic control. Even those who see EMF as a public problem, share few assumptions about the type of problem it represents, whether serious risks to health are involved, or about the collective action it warrants. In the absence of conclusive scientific evidence, the interpretations of various social and political institutions have moved into the foreground, each bringing a different perspective to the issue and a unique way of accommodating the ambiguity surrounding the question of health effects. The result is a confusing mixture of warnings and reassurances, of calls for more study, or for immediate action, that distinguishes the EMF issue from other, better-defined environmental risks. While much of the discussion of EMF has focused on the synthesis and assessment of experimental and epidemiologic research on health effects, this paper explores the diversity of institutional interpretations to shed some light on the social and political responses to the issue and how these might shape its future in public policy. The paper concentrates on the selected norms and practices of three institutions, centrally involved yet differing in their interpretations: the scientific community, the legal system, and public bureaucracy. The disparities that form among the interpretations of institutions faced with ambiguous evidence and ill-formed problem definitions can lead to tensions and a search for alternative means of resolving contested meanings.

PT JOURNAL ARTICLE

MJ Electricity /Adverse Effects

MJ Electromagnetic Fields /Adverse Effects

MJ Environmental Health /Legislation & Jurisprudence

MJ Public Health /Legislation & Jurisprudence

MJ Radiation Effects

MI Communication

MI Decision Making

MI Government Agencies

MI Health Policy

MI Human

MI Interinstitutional Relations

MI Organizational Policy

MI Policy Making

MI Public Opinion

MI Risk Factors

MI Science

UI 94354895
 AU Blanchard JP
 AU Blackman CF
 TI Clarification and application of an ion parametric resonance model for
 magnetic field interactions with biological systems.
 SO Bioelectromagnetics 1994;15(3):217-38
 JT BIOELECTROMAGNETICS
 AD Rochtel Corporation, San Francisco, California 94119-3965.
 LA Eng
 AB Theoretical models proposed to date have been unable to clearly predict
 biological results from exposure to low-intensity electric and magnetic
 fields (EMF). Recently a predictive ionic resonance model was proposed
 by Lednev, based on an earlier atomic spectroscopy theory described by
 Podgoretskii and Podgoretskii and Khrustalev. The ion parametric
 resonance (IPR) model developed in this paper corrects mathematical
 errors in the earlier Lednev model and extends that model to give
 explicit predictions of biological responses to parallel AC and DC
 magnetic fields caused by field-induced changes in combinations of ions
 within the biological system. Distinct response forms predicted by the
 IPR model depend explicitly on the experimentally controlled variables:
 magnetic flux densities of the AC and DC magnetic fields (Bac and Bdc,
 respectively); AC frequency (fac); and, implicitly, charge to mass ratio
 of target-ions. After clarifying the IPR model and extending it to
 combinations of different resonant ions, this paper proposes a basic set
 of experiments to test the IPR model directly which do not rely on the
 choice of a particular specimen or endpoint. While the fundamental
 bases of the model are supported by a variety of other studies, the IPR
 model is necessarily heuristic when applied to biological systems,
 because it is based on the premise that the magnitude and form of
 magnetic field interactions with unhydrated resonant ions in critical
 biological structures alter ion-associated biological activities that
 may in turn be correlated with observable effects in living systems.
 PT JOURNAL ARTICLE
 MJ Electromagnetic Fields
 MJ Electron Spin Resonance Spectroscopy
 MJ Magnetism
 MJ Models Biological
 MJ Radiation Effects
 MI Algorithms
 MI Animal
 MI Human
 MI Models Theoretical
 MI Support, Non-U.S. Gov't
 MI Support, U.S. Gov't, Non-P.H.S.

Item: 184

UI 94366892
 AU Putnam FW
 TI Hiroshima and Nagasaki revisited: the Atomic Bomb Casualty Commission
 and the Radiation Effects Research Foundation.

SO Perspect Biol Med 1994 Summer;37(4):515-45
JT PERSPECTIVES IN BIOLOGY AND MEDICINE
AD Department of Biology, Indiana University, Bloomington 47405.
LA Eng
PT HISTORICAL ARTICLE
PT JOURNAL ARTICLE
MJ Foundations /History
MJ Nuclear Warfare
MJ Radiation Effects
MJ Research /History
MI History of Medicine 20th Cent
MI Human
MI Japan
MI Radiation Injuries /History
MI Radioactive Fallout
MI United States

Item: 185

UI 94378541
AU Davydov BI
AU Zhiliaev EG
AU Ushakov IB
AU Soldatov SK
AU Ushakov BN
TI [Low doses of ionizing radiation: the complexity of the problem and the uncertainty of late sequelae]
SO Voen Med Zh 1994 Apr;(4):20-4
JT VOENNO-MEDITSINSKII ZHURNAL
LA Rus For
PT JOURNAL ARTICLE
PT REVIEW
PT REVIEW, TUTORIAL
MJ Radiation Effects
MI Dose-Response Relationship, Radiation
MI Human
MI Neoplasms, Radiation-Induced /Epidemiology
MI Neoplasms, Radiation-Induced /Mortality
MI Occupational Exposure /Adverse Effects
MI Occupational Exposure /Statistics & Numerical Data
MI Radiation Injuries /Epidemiology
MI Radiation Injuries /Mortality
MI Risk Factors
MI Time Factors

Item: 186

UI 95024863
AU Bentzen SM
TI Radiobiological considerations in the design of clinical trials.
SO Radiother Oncol 1994 Jul;32(1):1-11
JT RADIOTHERAPY AND ONCOLOGY

AD Danish Cancer Society, Department of Experimental Clinical Oncology,
Aarhus.

LA Eng

AB Progress in quantitative clinical radiobiology has improved the possibilities for rational design of new radiotherapy schedules. This paper reviews some general problems in calculating the required number of patients in a trial with a radiobiological rationale. Three such rationales are considered: dose escalation, hyperfractionation, and accelerated fractionation. One crucial factor in calculating the size of a trial is the steepness of the dose-response curve for both tumors and normal tissues, and literature data on this are reviewed. It is concluded that fairly large trials, typically comprising 300 or more patients, are necessary, unless efficient stratification of the patients is possible according to the risk for some specific type of recurrence. Such stratification may be possible either according to clinico-pathological characteristics or to the results from predictive assays.

PT JOURNAL ARTICLE

PT REVIEW

PT REVIEW, TUTORIAL

MJ Neoplasms /Radiotherapy C4 C4.0

MJ Radiobiology

MJ Randomized Controlled Trials

MJ Research Design

MI Human

MI Radiation Effects

MI Radiotherapy Dosage

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[illegible]

A Guide to Environmental Resources on the Internet
by
Carol Briggs-Erickson
and
Toni Murphy

Version 1.0 Compiled September 1993 - December 1993.

Welcome to A Guide to Environmental Resources on the Internet by Carol Briggs-Erickson and Toni Murphy. This is a guide to resources of an environmental nature which can be found on the Internet and was written to be used by researchers, environmentalists, teachers and any person who is interested in knowing and doing something about the health of our planet. The guide is arranged alphabetically by subject and then by the Press SPACE for more, q to quit Internet tools used to locate those resources. It is not intended to be an instructional manual on the use of the tools. The authors would recommend the books "The Whole Internet" by Ed Krol, "The Internet Companion" by Tracy LaQuey, or some of the guides that are available by anonymous ftp, such as "The Big Dummy's Guide to the Internet" (which is located at ftp>unix.hensa.ac.ukpub/uunet/pub/linguistics/bigdummysguidetotheinternet.Z) for learning the use of the tools.

Access to this guide is available via the "Clearinghouse for Subject-Oriented Internet Resource Guides", a joint project of the University of Michigan Library and the School of Information and Library Studies. Access points:

```
anonymous FTP:
  host: una.hh.lib.umich.edu
  path: /inetdirstacks
  file: environment:murphybriggs
```

```
Gopher:  North America
         USA
         Michigan
         Clearinghouse for Subject-Oriented...
```

Press SPACE for more, q to quit

All Guides

URL for WWW/Mosaic:

gopher://una.hh.lib.umich.edu/00/inetdirsstacks/environment:
murphybriggs

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1. Introduction

This guide is arranged primarily by subject, but since there are a number of resources that reside within databases that are available to the public covering the whole scope of environmental concerns, and a number of agencies that deal with environmental standards and

regulations, we decided to give these agencies and databases their own sections. We also found some resources that deal with the ecology of one geographic area. These were also put into a separate section. Everything else that we found, we felt could be placed under one or two subject headings except for the resources found in the many online catalogs available by gopher and telnet. Time constraints kept us from listing the catalogs by subject, but each catalog included contains at least 50 resources pertaining to three or more of our subject topics. We searched for our resources using gopher, telnet, archie, veronica, ftp, world wide web and wais. We did not find much of relevance using www subject entry points; nor were there a great number of wais documents. What we did find using www and wais is listed under each subject.

Some of the files mentioned in this guide are in the GIF format. If you are not using Mosaic or other software that allows viewing of these image files, consult the FAQ documents on accessing software conversion programs.

Press SPACE for more, q to quit(URL:
file://bloom-picayune.mit.edu/pub/usenet-by-group
/alt.answers/pictures-faq/part3)

2. Major environmental organizations and networks.

2.1 Consortium for International Earth Science Information Network (CIESIN)

Contains environmental policies, conference information, full text of world treaties, WAIS searchable environmental sources.

Audience: Primarily earth scientists, but contains resources of interest to environmentalists, and researchers, educators.

Rating: A good source for general issues; many of the documents are available from other Internet sources, e.g. EPA, UNCED.

```
gopher> gopher.ciesin.org
```

Press SPACE for more, q to quit

The CIESIN Catalog Services at Polytechnic University is searchable by:

```
gopher> gopher.isnet.is
Hytelnet
Other Resources
Miscellaneous Resources
GreenPages Pilot Project at Polytechnic
University
```

URL:gopher://gopher.isnet.is/11/hytelnet/site2/oth000.oth065

or

```
telnet> sirius.poly.edu
login: gp
```

2.2 Environmental Protection Agency (EPA)

Press SPACE for more, q to quit
covering a

The EPA maintains searchable databases

wide range of environmental issues in its "Online Library System". In addition to a main, national catalog of citations, there are searchable databases on hazardous wastes, clean lakes, and environmental financing. The publication, Access EPA, is also available.

Audience: Researchers, consumers, environmentalists.

Rating: Very comprehensive coverage, large dataset.

```
telnet> epaibm.rtpnc.epa.gov
login: public
menu: 1
```

In addition, the EPA is developing a gopher site covering topics such as agriculture, air, water, land, and related environmental topics.

```
gopher> futures.wic.epa.gov
```

or

Press SPACE for more, q to quit

```
gopher> North America
```

USA

Washington DC

USA Environmental Protection Agency

The EPA Office of Air Quality Planning and Standards also maintains a network of bulletin boards. (See 3.2)

2.3 EcoNet

Large, fee-based network comprised of many environmental discussions, reports, articles, and documents. Resources include U. S. EPA press releases and weekly transcripts of "Living on Earth" (NPR's Environment news program.) Large, Worldwide coverage and membership. Some materials are archived and available via ftp.

Press SPACE for more, q to quit
econet-info@igc.apc.org for
information

Send a blank message to:

```
anonymous ftp> igc.apc.org
/pub/econet_brochure
```

```
gopher> igc.apc.org (in development)
```

There are many discussion groups relating to environmental issues. Just a few include:

en.alerts
en.events
en.climate
en.energy
en.recycle
en.toxics
sc.natlnews (Sierra Club)
en.cleanair

Press SPACE for more, q to quit 2.4 Environmental Resources Information
Network (ERIN)

Network linking the Australian Nature Conservation Agency, the Australian Heritage Commission, the Commonwealth Environment Protection Agency, and the Department of the Environment, Sport and Territories. Main focus is on endangered species, vegetation, and area studies. Resources include data sets, images (GIF), international agreements, legislation and conference information. Emphasis on the Australian environment; some world coverage.

gopher> kaos.erin.gov.au

URL: <http://kaos.erin.gov.au:80/erin.html>

3. Subject resources

3.1 Acid rain

Press SPACE for more, q to quit

3.1.1 Telnet

3.1.1.1 Classroom Earth

Classroom Earth (An environmental education resource made possible by a grant from NASA) has an Acid Rain Online Lab for teaching about the study of acid rain. Water sample data is entered by groups; the data can be downloaded and compared.

telnet> classroom_earth.ciesin.org 2010
hit RETURN when connected

(For additional resources on acid rain, consult section 3.6 Environment (general).)

3.2 Air pollution

3.2.1 LISTSERVS:

Press SPACE for more, q to quit

SAFETY@UVMVM

This is a group which discusses safety in all aspects. It is relevant here on topics of waste disposal (burning, etc.), and chemical hazards.

REACTIVE-L@VM1.MCGILL.CA

This is a moderately active discussion group dealing with short-lived air pollutants.

3.2.2 EPA bulletin boards:

telnet> ttnbbs.rtpnc.epa.gov

Some available bulletin boards

CAAA - Clean Air Act Amendments

EMTIC - Emission Measurement Technical Information Center emission test methods and testing information)

Press SPACE for more, q to quit AIRS - Air quality and emissions

BLIS - Compilation of air permits from air pollution control agencies.

NATICH - Information submitted by EPA, state and local agencies about air toxics programs

COMPLI - Stationary source and asbestos compliance policy

CHIEF - Latest information on air emission inventories and emission factors

ATPI - Current course offerings on air pollution

3.2.3 FTP sites:

3.2.3.1 nic.cic.net

There are many good documents in the "e"
directory at this site having to
do with pollution and other environmental
Press SPACE for more, q to quit issues,useful to researchers.

```
ftp> nic.cic.net
/pub/nircomm/gopher/e-serials/alphabetic
/e/env-link/india.pollution.Z

/pub/nircomm/gopher/e-serials/alphabetic
/e/env-link/manila.pollution.Z

/pub/nircomm/gopher/e-serials/alphabetic
/e/env-link/unocal.pollution.Z
```

URL:file://nic.cic.net/pub/nircomm/gopher/e-serials
/alphabetic/e/env-link

3.2.3.2 unix.hensa.ac.uk

The pollution datasets at this site are of value
to researchers and environmental scientists and
legislators.

```
ftp> unix.hensa.ac.uk
Press SPACE for more, q to quit /pub/statlib/datasets/pollution
```

URL:file://unix.hensa.ac.uk/pub/statlib/datasets/pollution

3.3 Alternative energy

3.3.1 LISTSERVS:

HYDROGEN-L@URIACC.URI.EDU

Discusses hydrogen as an alternative energy
source. Some very lively discussions, but
tends to be scientist oriented.

ENERGY-L@TAUNIVM

Good discussion of alternative energy.

AE@SJSUVM1.SJSU.EDU

This alternative energy discussion group is
intended to provide a forum to discuss
the current state of the art and future

directions of alternative energy sources
Press SPACE for more, q to quit that are renewable or
sustainable.

3.3.2 Newsletters:

3.3.2.1 Wind Energy Weekly, newsletter. For
free online subscription, e-mail Tom
Gray (Internet/Bitnet: tgray
@igc.apc.org)(EcoNet/PeaceNet:
tgray@igc)(UUCP:uunet!cdp!tgray). Also
available by anonymous ftp.

ftp> sunsite.unc.edu
/pub/academic/environment/alternate-energy
/miscellaneous/wind-energy-weekly

URL:file://sunsite.unc.edu/pub/academic/environment
/alternate-energy/miscellaneous/wind-energy-weekly

3.3.3 FTP and gopher:

Press SPACE for more, q to quit
and

3.3.3.1 Center for Renewable Energy

Sustainable Tecnology (CREST)

This is an (emerging) educational resource
center providing services and education focusing
on renewable energy, energy efficiency, the
environment, and sustainable development.

ftp> ftp.digex.net
/pub/crest

URL: file://ftp.digex.net/pub/crest

gopher and www access: in development

3.4 EcoSystems

Press SPACE for more, q to quit

3.4.1 LISTSERVS:

ECOSYS-L@vm.gmd.de
Ecosystem theory in German

ECOLOG-L@UMDD.UMD.EDU
Discussion group of the Ecological Society
of America. Includes grant information,
job postings, general news and discussion
of ecological topics. Very active group.

ECOLOGY@EMUVM1
Politics and the environment. Discusses
government policy, EPA rulings, etc.

3.4.2 FTP:

```
ftp> pencil.cs.missouri.edu  
/pub/student_envirolink/Ecosytem_Decay.txt  
(note the typo in the word Ecosytem, type it  
exactly to get this document)
```

Press SPACE for more, q to quit

3.4.3 Gopher:

Coweeta Hydrologic Laboratory
There is a nice bibliography on Ecosystems in the
Coweeta LTER Site.

```
gopher> sparc.ecology.uga.edu  
Coweeta LTER Site
```

URL: <gopher://sparc.ecology.uga.edu/11/cwtsite>

3.5 Endangered species

3.5.1 FTP:

3.5.1.1 UN Treaty (1973) available via ftp
and gopher.

Contains text on the international trade in
endangered species of wild fauna and flora.

Press SPACE for more, q to quit
interested in

Good for researchers and those

environmental law.

```
ftp> wiretap.spies.com
```


/Gov/Treaties/Treaties/endanger.un

URL:file//wiretap.spies.com/Gov/Treaties/Treaties/endanger.un

3.5.1.2 Environmental Resources Information Network (ERIN)

The main focus is on endangered species, vegetation, and area studies. Resources include international agreements, legislation, and conference information. Emphasis on the Australian environment; some world coverage.

gopher> kaos.erin.gov.au

3.6 Environment (general)

Press SPACE for more, q to quit

3.6.1 LISTSERVS and newsgroups:

ENVST-L@BROWNV.BROWN.EDU

Environmental studies. Very busy list, good discussion.

ENVBEH-L@POLYVM

Environment and human behavior. Moderately busy, some similar postings to ENVST-L

SFER-L@UCFIVM

South Florida Environmental Reader (moderated) Pertains mainly to Southern Florida.

BIODIV-L@BDT.FTPT.BR

Group interested in forming a biodiversity network. (Archives of this list available via gopher at gopher>bdt.ftpt.br)

BIOSPH-L@UBVM

Biosphere, ecology discussion list

Press SPACE for more, q to quit

alt.earth.summit

3.6.2 Gopher:

3.6.2.1 EcoGopher at UVa

EcoGopher provides easy access to information from many environmental agencies and organizations all in one place. Using "katie" (keyword search of all text in EcoGopher. Researchers, environmentalists and teachers can find an abundance of resources. There are also several good resources available on the one page gopher menu.

```
gopher> ecosys.drdr.Virginia.edu
      katie
```

URL: <gopher://ecosys.drdr.virginia.edu/1>

Press SPACE for more, q to quit
(WHO)

3.6.2.2 World Health Organization

Environmental health newsletter - updated regularly.

```
gopher> gopher.who.ch
```

3.6.2.3 CIESIN (See 2.1 above for description)

```
gopher> gopher.ciesin.org
```

3.6.2.4 LTER - (Long Term Ecological Research gopher)

Includes datasets, conferences, bibliographies, meeting abstracts, etc. Good for researchers, and environmental scientists.

```
gopher> lternet.edu
```

Press SPACE for more, q to quit

3.6.2.5 CICNet gopher

Access to newsletters, keyword searching of databases, EcoNet documents, etc. Resource for researchers, environmental scientists, oceanographers and others.

```
gopher> gopher.cic.net
```

3.6.3 Telnet:

3.6.3.1 PENPages

There are many good documents on the environment here that would be useful to teachers, researchers and environmentalist.

```
telnet> psupen.psu.edu
login: your two-letter state code
keyword search: environment
```

Press SPACE for more, q to quit

3.6.3.2 Envirolink Network

There are some great bibliographies, statistical resources and other documents relevant for researchers and environmentalists at this site.

```
telnet> envirolink.org
login: gopher
```

3.6.3.4 OLS database

The EPA mainframe is open 24hrs/day, except from 8:00 PM Sunday to 7:00 AM Monday (EST). The OLS database contains book citations, federal agency technical reports, indices, audiovisual materials, maps, journals and other documents. The National Catalog, Hazardous Waste, and Lakes databases can be searched by single keyword. They allow you to combine terms in a boolean type search.

Press SPACE for more, q to quit

```
telnet> epaibm.rtpnc.epa.gov
select Public Access
select OLS
select 1
```

3.6.3.5 EnviroNet

This is a resource for space environment information. It contains handbook sections which are good resources for teachers and environmental researchers.

```
telnet> envnet.gsfc.nasa.gov
```

```
login: envnet  
passwd: henniker
```

3.6.3.6 SciLink

There are two discussion groups that are relevant here, "environment" and "earth." You can also send private messages to

other SciLink users. This is a good resource for educators, environmentalists and students k-12.

```
telnet> scilink.org  
login: guest  
passwd: guest
```

3.6.3.7 Compelling earth views

NASA photographs of the earth from space.

```
telnet> sseop@jsc.nasa.gov  
login: PHOTOS  
password: PHOTOS
```

3.6.3.8 Fedworld

Press SPACE for more, q to quit
resource, Though not a strictly environmental

Fedworld is rich in environmental papers and reports. All aspects of the environment can be found here in the form of research reports, documents, and files.

Some of the NTIS reports include:

- Acid Precipitation
- Air Pollution
- Clean Coal Technologies
- Hazardous Material Data File
- Toxic Release Inventory on Tape
- Catalog of Environment Reports & Studies

In addition to NTIS information, files include research on environmental concerns

(recycling, methane from solid wastes, acid mine drainage, etc.)

telnet> fedworld.gov

Press SPACE for more, q to quit

3.6.4 E-mail:

3.6.4.1 Environmental Audit '90-Energy and Water Conservation (chart)

40 page discussion with charts to raise campus consciousness towards the environment. Concise, interesting, good statistics, useful for those involved in college campus ecology and recycling programs.

e-mail> Julian Keniry (julian@NWFDC.NWF.ORG)

3.6.4.2 Good bibliography. Relevant for researchers on environment and women's studies.

Title: Women and the Environmental Movement
Author: Jennifer L. Harder jlharder@ucdavis.edu
Available by e-mail from: Geoffrey
Wandesforde-Smith (gawsmith@ucdavis.edu)

Press SPACE for more, q to quit

3.6.5 FTP:

3.6.5.1

ftp> eu.net
/newsarchive/sci.bio/ecology

URL: file://eu.net/newsarchive/sci.bio/ecology

3.6.5.1 EcoNet Energy & Climate Information Newsletter Informative newsletter, useful to researchers and environmental scientists.

ftp> nic.cic.net
/pub/nircomm/gopher/e-serials/alphabetic
/e/econet/ecixtc.Z

URL:file:///nic.cic.net/pub/nircomm/gopher/e-serials/alphabetic
/e/econet/ecixtc.Z

Press SPACE for more, q to quit

3.6.5.2 GREENDISK (introductory issue of
environmental journal on computer
diskette, subscription costs
\$35.00/year, disk envelopes and
labels made of recycled materials)

Worth the cost if you're buying environmental
journals, without the guilt of killing trees.
Relevant for researchers and general public.

ftp> nic.cic.net
/pub/nircomm/gopher/e-serials/alphabetic/g
/greendisk/information.Z

URL:file:///nic.cic.net/pub/nircomm/gopher/e-serials/alphabetic/g
/greendisk/information.Z

Press SPACE for more, q to quit
and

Many other environmental newsletters

journals are available at the anonymous ftp site
at nic.cic.net in the directory
pub/nircomm/gopher/e-serials. Included are:

BEN (Botanical Electronic News)
BioConservation News
Biosphere (Newsgroup newsletter)
CLEAN
Climate/Ecosystem Dynamics
Env-Link
EnviroComputing News
ERIN (Newsletters of the Australian
Environmental Resources Information
Network) in PostScript format (maps and
detailed drawings included)
LTER (Long-term Environmental Research) Data
Management Bulletin LTER Network News
The Scientist
SEACNET (Student Environmental Action Coalition)
Sierra Club National News Report
South Florida Environmental Reader
University of Michigan Global Change Newsletter

Press SPACE for more, q to quit

World Watch Institute Paper

3.6.5.3 Bibliography on the effects of fire on all aspects of the environment.

```
ftp> life.anu.edu.au  
/pub/landscape_ecology/firenet/firebib  
/firebib.txt
```

URL:file:///life.anu.edu.au/pub/landscape_ecology/firenet/firebib
/firebib.txt

3.6.5.4 Software ftp:

Environmental programs, looked useful for educators and researchers. The program listed here compares ecological population relationships. There are other programs at this site, also.

```
ftp> netserv1.its.rpi.edu
```

Press SPACE for more, q to quit
/pub/faculty/bungay/envir1/ecology.bas

URL:file:///netserv1.its.rpi.edu/pub/faculty/bungay/envir1
/ecology.bas

3.6.6 WWW:

Environment: HOLIT - a Hebrew language database

We could not evaluate this database, because we do not speak Hebrew, but there seemed to be enough data here to check into it for Hebrew-speaking researchers.

Press SPACE for more, q to quit
(which can

3.6.7 General newsletters and serials:

be accessed via gopher and/or ftp)

3.6.7.1 Student Envirolink

env-link+forms@andrew.cmu.edu

3.6.7.2 Sense of Place

An electronic magazine produced by students at Dartmouth. Useful to students, educators and researchers.

e-mail to SOP@dartmouth.edu for notification of latest issue.

3.6.7.3 The Scientist

A biweekly tabloid newspaper dealing with the life sciences read by scientists and

Press SPACE for more, q to quit researchers. Some articles are relevant to

educators and environmentalists.

gopher> inforM.umd.edu

ftp> ds.internic.net
/pub/the-scientist

URL: file://ds.internic.net/pub/the-scientist

3.6.7.4 E, The Environmental Magazine

gopher> gopher.internet.com

3.6.7.5 News of the Earth

sol.acs.unt.edu (tentative)

3.6.7.6 MEEMAN Archive (Environmental Journalism)

Press SPACE for more, q to quit Database of environmental articles, citations

and abstracts. Useful for researchers, environmentalists, and educators.

telnet> hermes.merit.edu

login: mirlyn, MEEM

3.6.7.7 LTER (Long-term Environmental Research) Data Management Bulletin)

Datasets, bibliography, bulletin boards. Data
of interest to researchers, educators and
environmental scientists.

gopher> lternet.edu

3.7 Environment and Education

3.7.1 LISTSERVS:

Press SPACE for more, q to quit
(Green School List)

GRNSCH-L@BROWNVN

IAPWILD

(World School for Adventure Learning) This
listserv is limited to schools who wish to
interact and exchange ideas with students,
explorers and scholars around the world.

ASEH-L@TTUVM1

American Society of Environmental
Historians

ENVST-L@BROWNVN

Environmental studies discussion. This is
a moderately active group discussing a
variety of environmental issues often
relating to education and teaching.

3.7.2 Telnet:

Press SPACE for more, q to quit
3.1.1.1)

3.7.2.1 Classroom Earth (See

An environmental education resource possible by
a grant from NASA. A good resource for
educators and students k-12.

telnet> classroom_earth.ciesin.org 2010
hit RETURN when connected

3.7.3 Gopher:

3.7.3.1 EcoGopher (see also 4.3 Federal Register for Grant Funding)

gopher> ecosys.drdr.virginia.edu

URL: gopher://ecosys.drdr.virginia.edu/1

3.7.3.2 CTI Centre for Biology.

Educational software reviews relating to
Press SPACE for more, q to quit teaching. Includes pollution
simulators and

environmental programs. Relevant to educators,
students and environmental scientists.

gopher> gopher.csc.liv.ac.uk

URL: gopher//gopher.csc.liv.ac.uk/11/ctibiol

3.7.4 FTP:

3.7.4.1 Center for Renewable Energy and Sustainable Tecnology (CREST)

This is an (emerging) educational resource
center providing services and education focusing
on renewable energy, energy efficiency, the
environment, and sustainable development.

ftp> ftp.digex.net

www access: in development

Press SPACE for more, q to quit

3.7.4.2 Software reviews archives

Reviews of programs in ecology. For students
and educators.

ftp> archives.math.utk.edu
/life.sciences/ecology/

URL: file://archives.math.utk.edu/life.sciences/ecology/

also available by gopher at
gopher> archives.math.utk.edu
Software
Life Sciences
Programs in Ecology

3.7.4.3 Solar energy factsheet for kids.

Interesting solar energy facts for students
and educators.

Press SPACE for more, q to quit ftp> sunsite.unc.edu
/pub/academic/environment/alternative-
energy/miscellaneous/factsheets
/slr4kids.fsh

URL:file://sunsite.unc.edu/pub/academic/environment
/alternative-energy/miscellaneous/factsheets
/slr4kids.fsh

3.8 Forestry

3.8.1 LISTSERVS/newsgroups:

FOREST@NIC.FUNET.FI
send subscribe message to:
mailserver@nic.funet.fi

FMDSS-L@PNFI.FORESTRY.CA
Forest Management Decision Support System

NATRESLIB-L
A discussion group for Natural Resources

Press SPACE for more, q to quit Librarians. Subscriptions and
messages are

sent to the list moderator, Anne Hedrich at:
annhed@cc.usu.edu

bionet.agroforestry

3.8.2 Gopher:

3.8.2.1 METLA

Gopher system of Forestry, Environment and
Natural Resource sponsored by the Finnish
Forest Research Institute. Contains statistics

on Finnish forestry.

gopher> pihta.metla.fi

URL: gopher://pihta.metla.fi:70/00

3.8.2.2 University of British Columbia (UBC
Press) mounts citations to its
published books by subject; they

Press SPACE for more, q to quit publish books in
environmental and

resource studies and include a section
on forestry.

gopher> gopher.ubc.ca
Libraries and Information Sources
UBC Press
Books in Print
Forestry

URL: gopher://gopher.ubc.ca:70/11/libraries/ubc-press

3.8.2.3 Publications and short articles are
available through the Purdue
Cooperative Extension.

gopher> hermes.ecn.purdue.edu
PCE Gopher Information Server
Agriculture
Forestry and Natural Resources

Press SPACE for more, q to quit
Exchange (EDEX)

3.8.2.4 The Ecological Data

gopher> suncis.cis.yale.edu

3.8.2.5 Forestry gopher at University of
Minnesota

Contains reports on areas of forestry and
conservation.

gopher> minerva.forestry.umn.edu

URL: gopher://minerva.forestry.umn.edu:70/00

3.8.3 Telnet:

3.8.3.1 PENPages (See 3.6.3.1 above for description)

Keyword search on forestry retrieved 112 documents.

Press SPACE for more, q to quit telnet> psupen.psu.edu
login: your two-letter state code

3.8.4 Bibliographies:

Title: Water Quality and Forestry
e-mail wqic@nalusda.gov

3.8.5 FTP:

3.8.5.1 1992 UNCED Forest Principles

UN Environmental Summit. Text of Agreement on Environment and Development.

ftp> life.anu.edu.au
 /pub/biodiversity/rio/unced.forest

3.8.5.2 Usenet news discussion of agroforestry.

Press SPACE for more, q to quit
ftp> fly.bio.indiana.edu
 /usenet/bionet/agroforestry

3.8.5.3 Canadian forestry

This document is a list of the people in charge of the Canadian Forestry Department.

ftp> cs.ubc.ca
 /pub/local/ca-domain/registrations-flat
 /ca.forestry

3.9 Greenhouse effect/Ozone depletion

3.9.1 Newsgroups:

sci.geo.meteorology
frequently has posts on ozone

Press SPACE for more, q to quit 3.9.2 FTP:

3.9.2.1 Introduction to the Ozone Layer.

Several documents explaining ozone depletion in layman's terms. Ozone depletion articles written by Robert Parson from U. of Colorado. Deals with physical properties of UV $^{\lambda}$ radiation and ozone. He is admittedly not an expert in this field.

```
ftp> bloom-picayune.mit.edu
/pub/usenet-by-group/sci.environment
/Ozone_Depletion_FAQ-Part_I:
Introduction_to_the_Ozone_Layer
```

3.9.2.2 Articles from ECO newsletter. Useful to researchers.

```
ftp> pencil.cs.missouri.edu
Press SPACE for more, q to quit
/pub/student_envirolink/Greenhouse_Effect.txt
```

3.9.2.3 Good article on solar collectors.

There are articles on solar homes, energy-saving landscaping, and other alternative energy topics. Relevant for educators, environmentalists, students.

```
ftp> sunsite.unc.edu
/pub/academic/environment/alternative-energy
/nc_solar_center/factsheets/aspsite.fsh
```

3.9.2.4 Tiempo is a bulletin on global warming and the Third World.

```
ftp> igc.apc.org
/pub/ECIX/tiempo
```

3.9.2.5 Ozone graphics.

Press SPACE for more, q to quit

Two GIF images of ozone levels and chlorine monoxide over the northern and southern hemispheres. Both maps were produced by the Microwave Limb Sounder aboard the Upper Atmosphere Research Satellite.

```
ftp> plaza.aarnet.edu.au  
      /micros/pc/garbo/pc/gif-astro/ozone93a.gif
```

URL: file:///plaza.aarnet.edu.au/micros/pc/garbo/pc/gif-astro/
ozone93a.gif

```
ftp> plaza.aarnet.edu.au  
      /micros/pc/garbo/pc/gif-astro/ozone93b.gif
```

URL: file:///plaza.aarnet.edu.au/micros/pc/garbo/pc/gif-astro/
ozone93b.gif

3.9.2.6 United Nations Treaties

Press SPACE for more, q to quit

Files containing the United Nations treaties on ozone: Vienna Convention for the Protection of the Ozone Layer (1985) and Montreal Amendment, London (1990).

```
ftp> wiretap.spies.com
```

URL: file:///wiretap.spies.com/Gov/Treaties/ozone.85

URL: file:///wiretap.spies.com/Gov/Treaties/ozone.90

3.9.3 Telnet:

3.9.3.1 PENPages (See 3.6.3.1 above for description)

```
telnet> psupen.psu.edu  
login: your two-letter state code  
keyword search: ozone layer
```

3.9.4 Gopher:

Press SPACE for more, q to quit

3.9.4.1 British Columbia Atmospher Caucus

A good source of information on the ozone.

gopher> freenet.victoria.bc.ca
Atmospheric Ozone Information

3.10 Hazardous waste

3.10.1 LISTSERVS:

SAFETY@UVMVM

Discusses laboratory safety, hazardous waste disposal, etc) Very active and good discussion.

HAZMAT-L

A forum for facilitating a central resource of chemical information such as regulatory status, and toxicology

Press SPACE for more, q to quit information. Subscribe:
majordomo@csn.org

3.10.2 Gopher:

3.10.2.1 Three hundred and fifty EPA Toxic Substances

gopher> ecosys.drdr.virginia.edu

URL: gopher://ecosys.drdr.Virginia.edu:70/11/library
/factsheets/toxics

3.10.2.2 OSHA information

Occupational Safety and Health regulations.

gopher> stellate.health.ufl.edu

Press SPACE for more, q to quit (see also 3.10.3.1 for additional
gopher site)

3.10.3 FTP:

3.10.3.1 SIRI

The Safety Information Resource on the Internet (SIRI). This is a gopher and ftp site which provides access to file libraries, a searchable index and gopher links to other safety-related gopher sites. Though dedicated to a variety of safety issues, much information on issues regarding hazardous waste can be found here.

```
gopher> siri.uvm.edu
      Text_files
      SafeLine_Text
```

```
ftp> siri.uvm.edu
```

Press SPACE for more, q to quit

3.10.3.2 Hazardous Materials Reports

A database of the Hazardous Materials reports is available in three parts via ftp:

```
ftp> gandalf.umcs.maine.edu
```

URL: file://gandalf.umcs.maine.edu/pub/hazmat/hazmat_1

URL: file://gandalf.umcs.maine.edu/pub/hazmat/hazmat_2

URL: file://gandalf.umcs.maine.edu/pub/hazmat/hazmat_3

3.11 Oceanic

3.11.1 LISTSERVS:

PACIFIC@BRUFPB

Discussion on all aspects of the Pacific Ocean. Not very active.

Press SPACE for more, q to quit

3.11.2 Gopher:

3.11.2.1 Woods Hole Oceanographic Institution

Bibliographies, oceanographic data and data from experiments reside on this gopher. Researchers and professional oceanographers will find this information relevant to their studies.

```
gopher> pearl.who.edu
```

URL: gopher://pearl.who.edu/1/WHOI

3.11.3 Telnet:

3.11.3.1 NOAA (National Oceanic and Atmospheric Administration)

This is an excellent source of oceanic data for researchers and educators.

telnet> esdiml.nodc.noaa.gov

Press SPACE for more, q to quit

login: NOAADIR

3.11.3.2 Oceanic Information Center

Oceanic has an easy to use interface. Kermit is compatible and OIC has directions for importing it from ftp sites and installing it.

telnet> delocn.udel.edu

login: info

3.11.4 FTP:

3.11.4.1 Sea surface temperature data

ftp> aurelie.soest.hawaii.edu
/pub/avhrr/images

Press SPACE for more, q to quit

3.12 Recycling

3.12.1 LISTSERVS:

RECYCLE@UMAB

Recycling in practice. Good discussion.

NCIW-L@YALEVM

Nutrient cycling issues. Not a lot going on here.

3.12.2 Telnet:

PENPages (See description 3.6.3.1 above)

Keyword search on recycling

```
telnet> psupen.psu.edu
login: your two-letter state code
```

3.12.3 Gopher:

Press SPACE for more, q to quit
gopher has a

3.12.3.1 The Texas A&M University

section on recycling. Contains
nontechnical, consumer-oriented
information.

```
gopher> gopher.tamu.edu
```

Browse information by subject
Recycling
Aggies for a Clean Tomorrow

3.13 Sustainable agriculture

3.13.1 LISTSERVS:

SUSTAG-L@WSUVM1

Sustainable agriculture discussion group.
almanac@ces.ncsu.edu Subscribe sanet-mg
(electronic conference of the Sustainable
Agriculture Network)

SAN is supported by a grant from the
Press SPACE for more, q to quit USDA's Sustainable Agriculture
Research

and Education (SARE) Program. There is a
lot of information available through this
network and a number of access points.
For information, contact Gabriel Hegyes,
SAN Coordinator: ghegyes@nalusda.gov

3.13.2 Telnet:

PENPages (See description 3.6.3.1 above)

Keyword search on sustainable agriculture
retrieved over 50 documents.

```
telnet> psupen.psu.edu
```

login: your two-letter state code

3.13.3 Bibliographies:

Title: Evaluation of Agricultural Best
Press SPACE for more, q to quit Management Practices
To order: e-mail wqic@nalusda.gov

3.13.4 FTP:

3.13.4.1 Very good sustainable agriculture
bibliography for researchers,
farmers, and educators.

```
ftp> sunsite.unc.edu  
/pub/academic/agriculture  
/sustainable_agriculture/sanet  
/showcase.bibliography
```

3.14 Water quality

3.14.1 LISTSERVS:

WATER-L@SUVM1

This is a water quality discussion list.

There is not a lot of activity on this

Press SPACE for more, q to quit one, but some interesting
discussion.

AQUIFER@IBACSATA

Pollution and groundwater discharge. Not
much discussion on this list.

A groundwater modeling discussion list is
being developed. Interested participants
may contact Sam Standring at
xsstandring@fullerton.edu.

3.14.2 E-mail:

3.14.2.1 Environmental Audit '90-Energy and
Water Conservation (chart)
40 page discussion with charts to raise campus
consciousness regarding water usage. Concise,
interesting, good statistics.

e-mail> Julian Keniry (julian@NWFDC.NWF.ORG)

Press SPACE for more, q to quit

3.14.2.2 Bibliographies:

Title: Water Quality and Forestry
To order: e-mail wqic@nalusda.gov

3.14.3 FTP:

3.14.3.1 There are a number of relevant documents in the /gopher/ directory. This document is relevant for environmentalists, and researchers, with emphasis on teaching.

```
ftp> nic.cic.net
      /pub/great-lakes/gopher
      /GroundWaterStrategy.txt
```

3.14.3.2 There are an number of relevant documents on groundwater quality at this site, also, one of which is

Press SPACE for more, q to quit listed below.

```
ftp> sunsite.unc.edu
      /pub/academic/political-science
      /Community_Idea_Net/Cleaning-Up-
      Groundwater-Contamination
```

3.14.3.3 Water Quality Database

Citations are available from each Extension Service in the Land Grant System. In addition, more than 350 complete documents are available for recovery online. That number is expected to reach 1,000 by the end of 1994.

```
telnet> hermes.ecn.purdue.edu
      login: cerf
      password: purdue
```

or

Press SPACE for more, q to quit

```
gopher> hermes.ecn.purdue.edu
      Purdue Cooperative Extension Gopher
      Environment
      Water Quality
```

WAIS: info.cern.ch : water-quality.src

3.14.4.4 Universities Water Information Network (UWIN) (in development)

Operating under the auspices of the Universities Council on Water Resources (UCOWR). Water resources publications educational information. The citation databases are excellent for researchers and educators.

```
gopher> uwin.c-wr.siu.edu
```

3.15 Wetlands

Press SPACE for more, q to quit

3.15.1 FTP:

Very good report on Great Lakes/St. Lawrence River Basin. Of interest to researchers and environmental legislators. There are several other environmental reports at this site under WaterAirLand.

```
ftp> nic.cic.net
      /pub/great-lakes/info/WaterAirLand
      /SpecialPlaces/wetlands.report
```

3.16 Wildlife

3.16.1 LISTSERVS:

CONSBIO@UWAVM.U.WASHINGTON.EDU
Discussion regarding conservation biology.
Low activity.

CTURTLE@NERVM

Press SPACE for more, q to quit
Conservation

Sea Turtle Biology and

discussion group. Some active discussion
on this list.

MARMAN@UVVM.UVIC.CA

Marine mammals research and conservation.
Moderate activity.

WILDNET@TRIBUNE.USASK.CA

Send to: wildnet-request@tribune.usask.ca.
The moderator asks members to submit a
brief biographical profile; this listing
is available to members on request. It is
valuable in identifying members of the
group who may share common backgrounds and
interests.

3.16.2 Telnet::

PENPages (see 3.6.3.1 above for description)

Press SPACE for more, q to quit

Keyword search on wildlife retrieved 50 very
up-to-date documents.

telnet> psupen.psu.edu

login: your two-letter state code

3.16.3 FTP:

3.16.3.1 sunsite.unc.edu

There are many good documents at this site
about wild flora and fauna.

ftp> sunsite.unc.edu

/pub/academic/agriculture

/sustainable_agriculture /general

/wildlife.plantings

/pub/academic/agriculture

/sustainable_agriculture/newsgroups

Press SPACE for more, q to quit

/bionet/bionet.general/australia.wildlife

Smithsonian wildlife pictures are available in
GIF format in the directory:

/pub/multimedia/pictures/smithsonian

/gif89a/science-nature
files: eagle.gif, owls.gif, many others

3.16.3.2 Australian Wildlife Legislation

ftp> wiretap.spies.com
/Gov/Aussie/wildlife.act

4. Regulations and Standards

4.1 United Nations Environment Programme (ENEP) UNCED, Agenda21, preconference documents

gopher> nywork1.undp.org
Press SPACE for more, q to quit ftp> info.umd.edu
/inforM/International/UnitedNations
WAIS> info.cern.ch unced-agenda.src

4.2 Environmental Safety and Health Information Center (ESHIC) ESHIC is a central repository for the Department of Energy. Tiger Team Assessment documents, plans, and assessments. It includes DOE documents concerning compliance, regulations, policy, training, and long-term planning.

gopher> romana.crystal.pnl.gov

4.3 Federal Register Searchable by subject (Environ, Energy, Agriculture) and by agency.

gopher> gopher.internet.com

Press SPACE for more, q to quit 4.4 OSHA Document Citations
Searchable OSHA document citations can be reached
through the University of Florida gopher.

gopher>stellate.health.ufl.edu

4.5 Federal Legislation via Library of Congress The Library of Congress Information System contains federal legislation introduced in

Congress since 1973. Information includes summaries and status of legislation. Searchable by subject (legislative), member's name, key words, bill number, public law number, committee name. Current file updated daily. This database has limited hours.

```
telnet> locis.loc.gov
      (no login required)
```

Press SPACE for more, q to quit

4.6 Whitehouse Press Releases on the Environment

Press releases, speeches and proclamations are available by subject at this location and many are included on the environment. An easy place to find relatively current information from the Whitehouse.

```
gopher> info.umd.edu
```

URL: gopher://info.umd.edu:901/11/info/Government/US/WhiteHouse/
PressRelease/Environment

5. Regional Concerns

5.1 LISTSERVS:

COMPSY-L@UIUCVMD
Midwest ecological issues

Press SPACE for more, q to quit NATURA-L@UCHCEVM
Ecology and environmental protection in
Chile

MEH20-L@TAUNIVM.TAU.AC.IL
Devoted to water issues in the Middle East

SFER-L@UCF1VM
South Florida environmental list

5.2 FTP:

5.2.1 Report of the Bi-national Program to Restore and Protect the Lake Superior Basin.

```
ftp> pencil.cs.missouri.edu  
      /pub/student_envirolink  
      /Lake_Superior_Basin_Project.txt
```

Press SPACE for more, q to quit

5.2.2 GLIN Great Lakes Information Network

```
ftp> nic.cic.net  
      /pub/great-lakes/basin/basin-ju.bak (GLIN  
      mailing list)  
  
      /pub/great-lakes/basin/bas90-g.rpt (water  
      usage report, numerical data)
```

5.3 Gopher:

Texas Studies Gopher

Armadillo, the Texas Studies Gopher, is designed to provide instructional resources and information about Texas natural and cultural history and the Texas environment. This gopher is young and is still developing. Audience: educators

```
gopher> gopher.tc.umn.edu  
        Other Gopher and Information Servers  
        Armadillo
```

Press SPACE for more, q to quit

or

Texas

Texas Education Network (Tenet)
Armadillo, the Texas Studies Gopher

5.4 E-journals

BEN@CUE.BC.CA
Botanical/ecological information on Canada.
(subscribe: ACESKA)

5.5 Other regional information sites

5.5.1 Directory of Environmental Educational Research (DEER)

5.5.2 Pikes Peak Library, Colorado

Press SPACE for more, q to quit

pac.carl.org

5.5.3 Oregon environmental legislation

Text of Oregon environmental bills.

```
gopher> gaia.ucsf.orst.edu
        Oregon Legislative Information System
        Natural Resources
```

5.5.4 National Capital Freenet

Good Canadian source of environmental information.

```
gopher: freenet.carleton.ca
```

5.5.5 EcoNet (fee-based)

Covers many areas: California, Hawaii, Florida, New York, Africa, Siberia, Scotland and others.

Press SPACE for more, q to quit

Send blank message to:

econet-info@igc.apc.org

for information.

5.5.6 Environmental News Network (Northwest U.S.)

```
gopher> gopher.uidaho.edu
```

5.5.7 Clemson University (Southeastern U.S.)

```
telnet> eureka.clemson.edu
login: PUBLIC
```

6. Library catalogs

This is a selected listing of library catalogs with extensive environmental holdings. All can be reached through gopher and

the following telnet addresses. If no login is specified, follow screen instructions when connected.

Press SPACE for more, q to quit

Acadia University

telnet: auls.acadiau.ca

login: opac

Arizona State University

telnet: carl.lib.asu.edu

login: carl

Athabasca University

telnet: aucat.athabascau.ca

login: aucat

Auburn

telnet: auducacd.duc.auburn.edu

login: tab/01

Augusta College

telnet: acvax.ac.edu

login: ACPAC

exit: <EXIT

Bates College

Press SPACE for more, q to quit telnet: ladd.bates.edu

Boston University

telnet: library.bu.edu

login: library

Brandeis University

telnet: library.brandeis.edu

login: louis

Brandon University

telnet: library.brandonu.ca

login: libcat

Butler University

telnet: ruth.butler.edu

login: iliad

California Institute of Technology

telnet: libopac.caltech.edu

login: clas

Press SPACE for more, q to quit

California Polytechnic State U.

telnet: library.calpoly.edu

California State University at Chico
telnet: libcat.csuchico.edu

California State University at Fresno
telnet: alis.csufresno.edu
login: remote
passwd: <return>

California State University at Hayward
telnet: library.csuhayward.edu
login: library

California State University at Long Beach
telnet: coast.lib.csulb.edu
login: vt100, start

California State University at Sacramento
telnet: eureka.lib.csus.edu
login: library

Press SPACE for more, q to quit

CARL - Colorado Alliance of Research Libraries
search individual catalogs
telnet: pac.carl.org

(Two good opacs in this system for environmental resources
are U. of Colorado at Boulder and Colorado School of Mines)

Claremont Colleges
California
telnet: blais.claremont.edu
login: library

Connecticut State University
telnet: csulib.ctstateu.edu
login: csulib
exit: h

Dartmouth
telnet: lib.dartmouth.edu
exit: bye

Drake University
telnet: lib.drake.edu

Press SPACE for more, q to quit login: cowles

Florida State University System
telnet: luis.nerdc.ufl.edu
login: luis

Georgia State University

telnet: library:gsu.edu

exit: quit

Harvard University

telnet: hollis.harvard.edu

login: hollis

Indiana University

telnet: iuis.ucs.indiana.edu

login: guest

choose: IUCAT

Lawrence Livermore National Laboratory

telnet: aish.llnl.gov

login: patron

Press SPACE for more, q to quit Loyola Marymount University

telnet: linus.lmu.edu

login: library

Northeastern University

telnet: library.lib.northeastern.edu

Pima College, Arizona

telnet: libcat.pima.edu

login: lib

San Diego State University

telnet: library.sdsu.edu 74

San Jose State University

telnet: sjsulib.sjsu.edu

login: lib

exit: h

Santa Clara University

telnet: sculib.scu.edu

login: clara

Press SPACE for more, q to quit

Sonoma State University

telnet: vax.sonoma.edu

login: opac

Tufts University

telnet: library.tufts.edu

login: tulips

University of Alabama, Huntsville

Huntsville, Alabama
telnet: library.uah.edu
login: he

University of Alabama, Tuscaloosa
Tuscaloosa, Alabama
telnet: ua2mvs.ua.edu
login: library
exit: exit

University of Arizona
telnet: sabio.arizona.edu
login: sabio

Press SPACE for more, q to quit

University of Arkansas
Fayetteville, Ark.
telnet: library.uark.edu
login: library

University of Colorado at Colorado Springs
telnet: arlo.colorado.edu
login: arlo

University of Hawaii at Manoa
telnet: starmaster.uhcc.hawaii.edu
login at enter class: lib
exit: //exit

University of Illinois at Urbana/Champaign
telnet: illinet.aiss.uiuc.edu
login: b
choose: luis

University of Iowa
telnet: oasis.uiowa.edu
login: oasis

Press SPACE for more, q to quit

University of Maine system
telnet: ursus.maine.edu
login: ursus

University of Miami
telnet: stacks.library.miami.edu
login: library
exit: q

University of Michigan
telnet: hermes.merit.edu
login: mirlyn

University of Minnesota
telnet: lumina.lib.umn.edu
login: PA

University of Northern Iowa
telnet: starmaster.uni.edu
type 1 at service prompt

University of Notre Dame
Press SPACE for more, q to quit telnet: irishmvs.cc.nd.edu
login: library
exit: x

University of the Pacific
telnet: pacificat.lib.uop.edu
login: library

Wesleyan University, Connecticut College and Trinity College
telnet: library.wesleyan.edu
login: luct
exit: stop

Williams College, Massachusetts
telnet: library.williams.edu
login: library

Yale University
telnet: umpg.cis.yale.edu port 6520

Press SPACE for more, q to quit 7. Bibliography

7.1 Gaffin, Adam. "Big Dummy's Guide to the Internet."

ftp> ftp.eff.org
/pub/EFF/papers/big-dummys-guide.txt

7.2 Krol, Ed. "The Whole Internet."
O'Reilly & Associates: Sebastopol, CA, 1992.

7.3 LaQuey, Tracy. "The Internet Companion."
Addison-Wesley: Reading, Mass., 1993.

7.4 Nickerson, Gord. "Environment Resources."


```
ftp> hydra.uwo.ca  
/libsoft/envIRON.wfw
```

Press SPACE for more, q to quit
the Internet."

7.5 Smith, Una. "A Biologist's Guide to

```
ftp> rtfm.mit.edu  
/pub/USENET/news.answers/biology/guide
```

7.6 Wendling/Christiansen. "Guide to Online Resources
for the Conservationist"

```
ftp> nic.sura.net  
/pub/nic/conservation-guide.11-93
```

7.7 Yanoff, Scott. "Special Internet Connections."

```
ftp> csdu.csd.uwm.edu  
/pub/inet.services.txt
```

8. Index

FTP sites

Press SPACE for more, q to quit

archives.math.utc.edu	3.7.4.2
aurelie.soest.hawaii.edu	3.11.4.1
bloom-picayune.mit.edu	3.9.2.1
cs.ubc.ca	3.8.5.3
ds.internic.net	3.6.7.3
eu.net	3.6.5
fly.bio.indiana.edu	3.8.5.2
ftp.digex.net	3.3.3.1, 3.7.4.1
gandalf.unc.maine.edu	3.10.3.2
igc.apc.org	2.3, 3.4, 3.9.2.4
info.umd.edu	4.1
life.anu.edu.au	3.6.5.3, 3.8.5.1
netserve1.its.rpi.edu	3.6.5.4,
nic.cic.net	3.2.3.1, 3.6.5.1, 3.6.5.2, 3.14.3.1, 3.15.1, 5.2.2
pencil.cs.missouri.edu	3.4.2, 3.9.2.2, 5.2.1
plaza.aarnet.edu.au	3.9.2.5
rtfm.mit.edu	3.10
siri.uvm.edu	3.10.3.1

sunsite.unc.edu	3.3.2.1, 3.7.4.3, 3.9.2.3, 3.13.4.1,	3.14.3.2,
Press SPACE for more, q to quit		
3.16.3.1		

unix.hensa.ac.uk	3.2.3.2
wiretap.spies.com	3.5.1, 3.9.2.7, 3.16.3.1

GOPHERS

ecosys.drdr.virginia.edu	3.6.2.1,3.7.3.1, 3.10.2.1	
freenet.carleton.ca	5.5.4	
freenet.victoria.bc.ca	3.9.4.1	
futures.wic.epa.gov	2.2	
gaia.ucs.orst.edu	5.5.3	
gopher.cic.net	3.6.2.5	
gopher.ciesin.org	2.1, 3.6.2.3	
gopher.csc.liv.ac.uk	3.7.3.2	
gopher.freenet.carleton.ca	3.2, 5.1	
gopher.internet.com	4.3	
gopher.isnet.is	2.1	
gopher.tamu.edu	3.12.3.1	
gopher.tc.umn.edu	5.3	
gopher.ubc.ca	3.8.2.2	
Press SPACE for more, q to quit	gopher.uidaho.edu	5.5.6
gopher.who.ch	3.6.2.2	
hermes.ecn.purdue.edu	3.8.2.3, 3.14.3.3	
info.umd.edu	4.6	
kaos.erin.gov.au	2.4, 3.5.1.2, 3.5.2, 3.6	
lternet.edu	3.6.2.4	
minerva.forestry.umn.edu	3.8.2.5	
nywork1.undp.org	4.1	
pearl.who.i.edu	3.12	
pihta.metla.fi	3.8.2.1, 3.11.2.1	
romana.crystal.pnl.gov	4.2	
sparc.ecology.uga.edu	3.4.3	
stellate.health.ufl.edu	3.10.2.2, 4.4	
suncis.cis.yale.edu	3.8.2.4	
uwin.c-wr.siu.edu	3.14.4.4	

LISTSERVS

AE@SJSUVM1.SJSU.EDU	3.3.1	
AQUIFER@IBACSATA	3.14.1	
Press SPACE for more, q to quit	ASEH-L@TTUVM1	3.7.1

BIODIV-L@BDT.FTPT.BR	3.6.1	
BIOSPH-L@UBVM	3.6.1	
CONSBIO@UWAVM.U.WASHINGTON.EDU	3.16.1	
CTURTLE@NERVM	3.16.1	
ECOLOG-L@UMDD.UMD.EDU	3.4.1	
ECOLOGY-L@EMUVM	3.4.1	
ECOSYS-L@VM.GMD.DE	3.4.1	
ENERGY-L@TAUNIVM	3.3.1	
ENVBH-L@POLYVM	3.6.1	
ENVST-L@BROWNV.M.BROWN.EDU	3.6.1, 3.7.1	
FMDSS-L@PNFI.FORESTRY.CA	3.8.1	
FOREST-L@NIC.FUNET.FI	3.8.1	
GRNSCH-L@BROWNV.M	3.7.1	
HAZMAT-L	3.10.1	
HYDROGEN-L@URIACC.URI.EDU	3.3.1	
IAPWILD@VM1.NODAK.EDU	3.7.1	
MARMAN@UVVM.UVIC.CA	3.16.1	
NATRESLIB-L/annhed@cc.us.edu	3.8.1	
NCIW-L@YALEVM	3.12.1	
PACIFIC@BRUFPB	3.12.1	
REACTIVE-L@VM1.MCGILL.CA	3.2.1	
RECYCLE@UMAB	3.12.1	
Press SPACE for more, q to quit	SAFETY-L@UVMVM	3.2.1,
3.10.1		
SFER-L@UCFIVM	3.6.1, 5.1	
SUSTAG-L@WSUVM1	3.13.1	
WATER-L@SUVM1	3.14.1	
WILDNET@TRIBUNE.USASK.CA	3.16.1	
TELNET		
classroom_earth.ciesin.org 2010	3.1.1.1, 3.7.2.1	
delocn.udel.edu	3.11.3.2	
epaibm.rtpnc.epa.gov	2.2, 3.4,	
envirolink.org	3.6.3.2	
envnet.gsfc.nasa.gov	3.6.3.5	
esdiml.nodc.noaa.gov	3.11.3.1	
eureka.clemson.edu	5.5.7	
fedworld.gov	3.6.3.8	
hermes.ecn.purdue.edu	3.14.3.3	
locis.loc.gov	4.5	
psupen.psu.edu	3.6.3.1, 3.8.3.1,	
	3.9.3.1, 3.12.2,	
	3.13.2, 3.15.2,	
	3.16.2	
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sirius.poly.edu	2.1	
sseop@jsc.nasa.gov	3.6.3.7	
ttnbbs.rtpnc.epa.gov	3.2.2	

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 Pellinen, Matti (Finnish Association for Nature Conservation,
 Finland)
 Phillips, Dave (New York)
 Rose, Michael.
 Rowe, Stewart
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 Whittington, Jim.
 Woods, Eric
 Press SPACE for more, q to quit Yeakley, Alan
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 or been removed by its owner by the time that this guide is
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comprehensive on any of the subjects that we have included here. We found an abundance of information on environmental topics; due to time constraints not all of this information could be included. Additionally, there may well be resources that we were unable to find, or that were added after this guide was published. At this time, we intend to update the guide every six months or so. And to this end we ask that users of this guide would inform us of omissions and/or new resources as they are found.

Carol Briggs-Erickson (cbriggs@sils.umich.edu)
and Toni Murphy (murphyt@sils.umich.edu)

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ACADEMIC AMERICAN ENCYCLOPEDIA

RADIATION

The term radiation refers both to the transmission of energy in the form of waves, and to the transmission of streams of atomic particles through space.

Any ENERGY that is transmitted in the form of waves is some kind of ELECTROMAGNETIC RADIATION. Each kind is distinguished by its wavelength, or frequency (see WAVES AND WAVE MOTION). All kinds of electromagnetic radiation obey the same physical laws (see BLACKBODY RADIATION), they all travel at the speed of LIGHT, and when they fall on a surface they exert a pressure proportional to the net flux of energy divided by the speed of light. Roughly in the order of decreasing wavelength, the kinds of electromagnetic radiation are RADIO waves, radiant heat energy (see HEAT AND HEAT TRANSFER) and MICROWAVES, INFRARED RADIATION, light, ULTRAVIOLET RADIATION, X RAYS, and GAMMA RAYS.

Many forms of particulate radiation are possible. In the phenomenon of RADIOACTIVITY, alpha radiation (helium nuclei; see ALPHA PARTICLE) and beta radiation (ELECTRONS) are observed, along with gamma rays. Very energetic particles from outer space are called COSMIC RAYS. Any particulate or electromagnetic radiation that can dissociate atoms into ions (see ION AND IONIZATION) is called ionizing radiation. Such radiation can produce harmful effects in organisms, and it is of concern in matters dealing with NUCLEAR ENERGY (see FALLOUT; POLLUTION, ENVIRONMENTAL; RADIATION INJURY; RADON). It is also widely used in medicine, however, for both diagnosis and therapy (see NUCLEAR MEDICINE; RADIATION THERAPY; RADIOGRAPHY; RADIOLOGY), as well as being widely employed in scientific research (see ACCELERATOR, PARTICLE SYNCHROTRON RADIATION).

ACADEMIC AMERICAN ENCYCLOPEDIA

RADIATION INJURY

When living tissue is irradiated, the tissue's molecular structure is disrupted, triggering a chain of events that can destroy living cells or produce chromosomal damage or other injury. The biological effects on the human body of large amounts of radiation are well known, due in large part to studies of the 76,000 survivors of the atomic bombings in Japan who have been closely monitored for over 40 years. The possible deleterious effects of low-level radiation are still unclear, but a variety of studies suggest that low-level radiation exposure may be more dangerous than previously thought. Furthermore, recent studies have shown a statistically significant link between cancer and low-level electromagnetic fields generated by common appliances and power lines, although no causal relationship has yet been found.

Types of Radiation Exposure

Every person on Earth is exposed to some form of radiation each day. In the United States, 82 percent of radiation exposure is from natural sources, such as cosmic and solar rays producing gamma rays and alpha or beta particles. The radioactive element radium, which decays to the poisonous gas RADON, emanates from rocks, soils, and groundwater. The remaining 19 percent of radiation exposure is derived from man-made radiation. Everyday sources include medical X rays and radioactive sensors that activate household smoke detectors. Spent fuel, high-level wastes, and other radioactive by-products from nuclear reactors and weapon plants, which may be stored improperly due to lax safety practices or obsolete facilities, also contribute to radiation exposure (see NUCLEAR WASTE). In addition, high levels of radiation are created in the atmosphere after nuclear power plant accidents, such as those that occurred at Three Mile Island in Pennsylvania and CHERNOBYL in the Soviet Union, and fall-out from nuclear explosions.

The amount of radiation absorbed per gram of body tissue is expressed in RAD (radiation absorbed dose). The unit of measurement used to describe the expected biological effects from radiation exposure in human soft tissue is REM, or roentgen equivalent man. A dose of 10,000 rem is lethal

through damage to the central nervous system. A dose of 300 rem delivered to the whole body is lethal 50 percent of the time. Radiation injury is probable at doses between 300 and 100 rem.

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RADIATION INJURY

Radiation Effects

The effects of radiation may be divided into four types: acute somatic effects, developmental effects, genetic effects, and late somatic effects. Acute somatic effects occur in individuals within days or weeks of their exposure. Injuries to the brain cause delirium and convulsions; damage of the eye lens results in cataracts; nausea and vomiting occur if the gastrointestinal tract is injured; damage to the ovaries or testes may cause sterility; and damage to the bone marrow affects the body's ability to fight infection. Depending upon the degree of irradiation, certain tissues, such as the bone marrow, the intestinal lining, or the skin, may be able to replace cells killed by radiation within a few days. The graying of hair by high doses of radiation, however, is permanent, providing evidence that above a certain dose level, pigment-producing cells are not replaced.

Developmental effects occur to unborn children of mothers exposed to radiation. A common consequence is brain damage or mental retardation, particularly if exposure occurs between the 8th and 15th week of gestation, when rapid development of fetal brain tissue occurs. Radiation exposure also may cause genetic mutations in adults that are carried through to children or later descendants.

Late somatic effects are injuries produced in an individual many years after exposure to radiation. The major late somatic effect is the development of various forms of cancer. A 1989 study by the National Research Council reports that even low doses of radiation pose a human cancer risk three to four times higher than previously estimated. The study reported that for each 100,000 persons receiving a single exposure of 10 rem, about 790 excess cancer deaths will result. A single exposure of 0.1 rem per year throughout a person's lifetime, equivalent to exposure from a single head and body CAT SCAN, may

contribute 550 excess deaths from cancer per 100,000 people. The estimated cancer risks for children exposed are about twice as large as those for adults.

Bibliography: Coggle, J.E., Biological Effects of Radiation, 2d ed. (1983); Lillie, D.W., Our Radiant World (1987); Martin, Alan, An Introduction to Radiation Protection, 3d ed. (1986); Mensah, J.T., Radiation and Human Health (1986).

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RADIATION PRESSURE

Radiation falling on a surface exerts a pressure; its value is proportional to the net flux of energy divided by the speed of light. If a particle is traveling in an orbit around the Sun, solar radiation will appear to come from a position slightly shifted toward the direction in which the particle is moving, just as to a moving pedestrian raindrops appear to fall not vertically but from a direction tilted toward the direction in which the person walks. This displacement is an aberration of light (see ABERRATION, STELLAR) and causes a net retarding force to act on the particle (Poynting-Robertson effect) that will ultimately cause the particle to fall into the Sun.

LAWRENCE H. ALLER

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RADIATION THERAPY

Radiation therapy, or radiotherapy, is a branch of RADIOLOGY used to treat CANCER. A patient is exposed to ionizing radiation in doses designed to kill a malignancy. Malignant tissues are more sensitive than normal tissues to radiation exposure and can be treated if they have not spread throughout the body and are not surrounded by normal tissue that is especially sensitive to radiation, such as the spinal cord. Sophisticated physical and biological techniques are used for radiation therapy, often accompanied by computer analyses (see NUCLEAR MEDICINE). A radiation therapist develops a treatment plan that permits the absorption of a fatal amount of radiation by all tumor cells but causes relatively minor damage to normal tissue. The usual mode of therapy is an external high-energy beam directed at the tumor site for a few minutes a day for 2 to 6 weeks, depending on the type of malignancy. X RAYS, gamma rays, and such isotopes as cobalt-60 and iodine-131 are often used.

Melvin L. Reed, M.D.

Bibliography: Easson, E. C., and Pointon, R. C., eds., *The Radiotherapy of Malignant Diseases* (1985); Horton, J. L., *Handbook of Radiation Therapy Physics* (1987); Orton, C. G., ed., *Radiation Dosimetry* (1986); Steel, G. G., et al., *The Biological Basis of Radiotherapy* (1983).

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OAK RIDGE NATIONAL LABORATORY

The Oak Ridge National Laboratory (ORNL) was founded (1943) by the U.S. government as part of the World War II MANHATTAN PROJECT to construct an ATOMIC BOMB. Located in Oak Ridge, Tenn., ORNL was engaged to develop safe, economic, and environmentally acceptable energy technologies for the future. It is operated by Martin Marietta Energy Systems, Incorporated, under a contract with the U.S. Department of Energy, and is also supported by other government agencies. Its staff numbers approximately 5,000 persons. Formerly called the Clinton Laboratories, ORNL received its current name in 1948.

Bibliography: Johnson, C. W., and Jackson, C. O., City behind a Fence: Oak Ridge, Tennessee 1942-1946 (1981).

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AN 91249743. 91000.
AU Kamrin-M-A. Fischer-L-J.
IN Institute for Environmental Toxicology, Michigan State University,
East Lansing 48824.
TI Workshop on human health impacts of halogenated biphenyls and related
compounds.
SO Environ-Health-Perspect. 1991 Feb. 91. P 157-64.
JT ENVIRONMENTAL HEALTH PERSPECTIVES.
PT CONGRESS (CON).
LG English (EN).
AB A workshop on the Human Health Impacts of Halogenated Biphenyls and
Related Compounds was held to assess the state of current research on
these chemicals and to make recommendations for future studies.
Participants discussed results from laboratory animal experiments on
PCBs, PBBs, dioxins, and dibenzofurans which demonstrate a common
mode of toxicological action while also revealing large variations in
toxicological potency both within and between these chemical
families. These variations demonstrate the importance of
congener-specific analyses in future studies of effects of exposure
to these compounds. Results from epidemiological studies of
environmentally exposed adult and pediatric populations from the
U.S., Japan, and Taiwan and occupationally exposed *cohorts* from
around the world were considered. It was concluded that available
evidence did not demonstrate serious adverse effects such as cancer,
in exposed adult *cohorts* but did provide indications of possible
neurobehavioral effects in children exposed in utero. In addition,
workshop participants described newly developed markers of exposure
and techniques for assessing endocrinological, immunological, and
neurological effects and suggested these be applied to
epidemiological studies of the effects of polyhalogenated compounds.
Other recommendations included identification of other *cohorts* and
development of a large *registry* of exposed individuals; performance
of detailed studies of reproductive function and outcomes in exposed
populations; and follow up of neurobehavioral effects in offspring of
exposed women. Author-abstract.
MJ BIPHENYL-COMPOUNDS: poisoning (po). ENVIRONMENTAL-EXPOSURE.
HYDROCARBONS-HALOGENATED: poisoning (po).
MN HUMAN. OCCUPATIONAL-EXPOSURE.
RN 0 -- Biphenyl-Compounds.
0 -- Hydrocarbons-Halogenated.
SB Priority Journals (M).
YR 1991.
IS 0091-6765. EI0.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
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SEARCH 6-->

1

AU Amir-H. Mbonde-M-P. Kitinya-J-N.

IN Department of Surgery, Faculty of Medicine, Muhimbili University
College of Health Sciences, Dar es Salaam, Tanzania.

JT CENTRAL AFRICAN JOURNAL OF MEDICINE.

AB The Tanzania Cancer *Registry* at Muhimbili Medical Centre, Dar es Salaam, Tanzania was reviewed for squamous cell carcinoma of the skin in non-albino African subjects. The data was analysed for age, sex, site and predisposing factors. Our results were then compared with studies previously carried out in Tanzania, elsewhere in Africa and also on Blacks in America. Squamous cell carcinoma of the skin was found to be a common malignancy, and the commonest skin cancer. Its peak was in the 40-49 years age group though it could occur in children under five years of age. The most affected site was the lower limb, followed by the head and the neck. The penis in the male and the vulva in the female were the third most affected sites. The scalp and the lip were more affected in females than males. Chronic trauma, chronic ulcers, and scars were the main predisposing risk factors to the lower limb and the scalp, while ultra violet *radiation* to the head and neck, and smegma of the uncircumcised penis were thought to be predisposing risk factors. Author-abstract.

2

AU Matte-T-D. Mulinare-J. Erickson-J-D.

IN Division of Environmental Hazards and Health Effects, Centers for
Disease Control, Atlanta, GA.

JT AMERICAN JOURNAL OF INDUSTRIAL MEDICINE.

AB Health care workers may be occupationally exposed to known and suspected teratogens including viruses, anesthetic gases, sterilants, mercury, and *x-radiation.* To assess the risk of congenital defects among offspring of health care workers, we analyzed parental occupational histories for 4,915 case babies with congenital defects, registered during the years 1968-1980 by the Metropolitan Atlanta Congenital Defects Program (MACDP) *registry,* and for 3,027 control babies born without defects during the same period. Offspring of mothers employed in a nursing occupation during the periconceptional period had a modest excess risk of having at least one congenital defect (relative risk `RR: = 1.42; 95% confidence interval `CI: 1.06-1.88); the offspring were at statistically significant increased risk of having anencephaly or spina bifida (RR = 2.00; 95% CI 1.01-4.30), coarctation of the aorta (RR = 2.06; 95% CI 1.10-3.82), genital system defects (RR = 1.61; 95% CI 1.03-2.53), and urinary system defects (RR = 3.43; 95% CI 1.41-8.34). These associations were not confounded by maternal age, education, or alcohol consumption. Offspring of mothers employed in administrative or

clerical jobs in the health care industry also had a modest excess risk of defects (RR = 1.35; 95% CI 0.96-1.90), including a statistically significant excess risk of limb defects. We also found associations between neural tube defects and potential exposure to anesthetic gases and to *x-radiation,* but each association was based on only three case babies of potentially exposed parents. We found no associations between defects and paternal health care employment, except for a few individual defects, and these were based on small numbers of exposed subjects. Only one of five previous studies reviewed found an increased risk of congenital defects among offspring of nurses, but three of the four negative studies had substantially smaller sample sizes than the present study. Detection bias may be a possible explanation for the apparent excess risk of certain defects among offspring of nurses. Author-abstract.

3

AU Kvasnicka-J. Kvasnicka-E. Schnadt-H. Geuer-W. Havers-W.
Breckow-J.

IN TUV Rheinland, Epidemiologie und Notfallschutz, Koln, Germany.

JT *RADIATION* AND ENVIRONMENTAL BIOPHYSICS.

AB Age-specific and cumulative mortality rates are presented for different cancer sites from 1970 until 1988 for the 11 individual federal states of West Germany (FRG). Sex- and age-specific evaluations are performed and temporal and regional trends in mortality from different cancer sites are revealed. In the FRG there is no comprehensive cancer *registry* with national coverage for recording cancer patients of all ages (nationwide incidence rates are available only for childhood cancers). Therefore, in view of the lack of a nationwide cancer *registry* the importance of long-term cancer mortality studies for health policy is emphasized. Methodological aspects of certification regulations and classification of cancer sites are discussed. Author-abstract.

4

AU Salvatore-J-R.

JT JOURNAL OF THE TENNESSEE MEDICAL ASSOCIATION.

5

AU Bell-J.

IN Thames Cancer *Registry,* Sutton, UK.

JT HEALTH REPORTS.

6

JT AUSTRALIAN AND NEW ZEALAND JOURNAL OF OPHTHALMOLOGY.

AB The aims of the Australian Corneal Graft *Registry* are to collect and collate statistical information on the practice of corneal transplantation around Australia, to identify risk factors for corneal graft failure, and to provide information on graft and visual outcome. The current report encompasses analyses performed on 3608 corneal grafts (96% penetrating and 4% lamellar) entered into the

Registry between May 1985 and July 1991. Sixty-four per cent of grafts have undergone one or more rounds of follow-up by the 189 contributing surgeons and 110 additional referring practitioners: five-year Kaplan-Meier graft survival for penetrating and lamellar grafts is 72% and 84%, respectively. The main indications for penetrating keratoplasty were keratoconus (31%), bullous keratopathy (25%), history of failed previous graft (14%), corneal scars and opacities (11%), and corneal dystrophies (7%). The most common reasons listed for failure of penetrating grafts were rejection (33%), glaucoma (11%), non-viral infections (10%), endothelial cell failure (8%) and herpetic infection (7%). In 19% of cases, the reason for graft failure was unclear. The main indications for lamellar keratoplasty were pterygium (32%), thinning, necrosis or ulceration from old *beta-radiation* therapy for pterygium (17%), and scleral ulcers, necrosis, ectasia, perforations or melts (29%). The most common reasons for the failure of lamellar grafts were corneal melting (43%) and sloughing of the graft (29%). Among the factors that influenced the survival of penetrating corneal grafts to a significant extent ($P < 0.05$) in univariate analysis were: the centre effect, indication for graft, graft number, a history of pregnancy or blood transfusion, inflammation before or at the time of graft, corneal vascularisation at the time of graft, a history of raised intraocular pressure, the donor cornea procurement source, the death to donor cornea enucleation time, graft size and large degrees of oversizing, lens status and the type of intraocular lens in situ. In the postoperative period, risk factors for failure included early removal of graft sutures, neovascularisation of the graft, herpetic recurrences in the graft and the occurrence of rejection episodes. The variables that best predicted penetrating corneal graft failure in Cox propore of graft, and a postoperative rise in intraocular pressure.(ABSTRACT TRUNCATED AT 400 WORDS). Author-abstract. 4 Refs.

7

AU Rowlings-P-A. Horowitz-M-M. Rimm-A-A. Sobocinski-K-A. Zhang-M-J. Bortin-M-M.

IN Advisory Committee of the International Bone Marrow Transplant *Registry,* Medical College of Wisconsin, Milwaukee.

JT CLINICAL TRANSPLANTS.

AB The number of allogeneic BMTs performed worldwide continues to increase. In addition, the characteristics of patients, donors, and selected treatments are changing. In BMT for leukemia during the 1980s there was a marked increase in transplants for early disease, the use of unrelated donors, and utilization of preparative regimens without *radiation.* Although treatment-related mortality declined during this period, there was only a modest decrease in relapse rates, indicating the need for more effective antileukemia strategies. The IBMTR collects data from many centers, and, as a consequence, it is uniquely suited to examine clinical situations in which patient accrual at a single institution would be insufficient

for a study to be performed. In such analyses, BMT was shown to be an effective treatment for Ph1-positive ALL. Patients tended to have earlier relapses and lower probabilities of LFS than Ph1-negative ALL but the differences were not statistically significant. BMT was also shown to be effective in patients with acute leukemia failing to ever go into remission, most of whom would die within the first 6 months following diagnosis. The IBMTR is a premier example of international scientific collaboration. Its success is a consequence of the desire of investigators throughout the world to combine their clinical data for statistical analysis in order to accelerate and improve patient care. Author-abstract.

8

AU Andersson-M. Juel-K. Storm-H-H.

IN Danish Cancer *Registry,* Institute of Cancer Epidemiology, Danish Cancer Society, Copenhagen.

JT JOURNAL OF CLINICAL EPIDEMIOLOGY.

AB The mortality pattern among 999 Danish patients who had been subjected to angiography of the carotid artery with the alpha-ray emitting X-ray contrast media Thorotrast during the period 1935-47 was assessed by record linkage with the National Death *Registry* through 1989. Standardized mortality ratios (SMR) were calculated relative to the general population. The overall SMR was increased by 18 times during the first 3 years after Thorotrast injection. This rate reflects the often serious, underlying neurological conditions for which angiography was performed, however, mortality was increased by 3-4 fold even for the follow up period after the first 3 years. The increase in mortality was evident for all categories of cause of death, the SMR being 11.1 (95% confidence interval (CI) 7.1-16.4) for cirrhosis of the liver, 4.7 (4.1-5.3) for cancer, 1.6 (1.3-1.9) for cardiac disease, 3.3 (2.6-4.2) for cerebrovascular diseases, 3.9 (3.3-4.5) for other natural causes, and 4.4 (3.4-5.6) for violent causes (including suicides). The SMR was generally related positively to young age at injection, to time since injection, and to the amount injected. The excess mortality can be explained only partially by underlying neurological conditions and by diseases known to be induced by Thorotrast (cirrhosis and cancer of the liver, leukaemia and other haematological diseases), and it is suggested that unspecific effects induced by the *alpha-radiation* of Thorotrast may have contributed. Author-abstract.

9

AU Goodwin-J-S. Hunt-W-C. Samet-J-M.

IN Department of Medicine, University of New Mexico School of Medicine, Albuquerque.

JT CANCER.

AB BACKGROUND. Older patients with cancer are less likely to receive definitive therapy, but the reasons for this are unclear. METHODS. All people aged 65 years or older living in six counties in New Mexico and diagnosed with breast, prostate, or colorectal cancer

between May 15, 1984 and May 15, 1986 (N = 669) were interviewed to obtain information on demographics, socioeconomic status, functional status, social support, other medical conditions, and cognitive status. Cancer treatment information was obtained from the New Mexico Tumor *Registry.* RESULTS. In univariate analyses, the following variables were associated significantly with nonreceipt of definitive therapy for cancer: advanced age, impairment in activities of daily living, low physical activity, decreased mental status, impaired access to transportation, and poor social support. In a multivariate analysis with the above variables along with measures of comorbidity, only advanced age and decreased mental status remained significant predictors of nonreceipt of definitive surgery, whereas the effects of impaired access to transportation and low physical activity remained relatively large but no longer were statistically significant. When receipt of surgery and receipt of *radiation* therapy were considered separately, older age, limited access to transportation, impaired functional status, and impaired mental status all significantly predicted nonreceipt of *radiation* therapy, but not surgery. CONCLUSIONS. There is a decline with age in the percentage of adults with cancer who received definitive therapy independent of other potentially explanatory factors such as comorbidity. In

15

AU Steinbeck-G.

IN Medical Hospital I, University of Munich, Klinikum Grosshadern, Germany.

JT PACE. PACING AND CLINICAL ELECTROPHYSIOLOGY.

AB The exciting new method of ablation of accessory pathways using radiofrequency current applied by catheters will dramatically change our therapeutic decisions in these patients in the near future. This brief survey reviews the existing literature about the risk of the disease as well as of the procedure of catheter ablation. From these data, the risk of sudden death appears to be extremely low in asymptomatic Wolff-Parkinson-White (WPW) individuals. Side effects of catheter ablation may result from the invasive procedure as well as from *radiation* exposure (the latter to the patient as well as to operating physicians). While the complication rate in experienced centers is extremely low, a multicenter *registry* of the success and complication rate is urgently needed in view of the many centers starting with catheter ablation. Based on a subjective benefit-to-risk analysis, asymptomatic WPW individuals should be offered catheter ablation only under special circumstances (high risk profession, athletes, family history of sudden death). On the other hand, catheter ablation need not be and should not be considered generally in asymptomatic individuals with WPW pattern. Finally, this author cannot imagine that the energy, time, and money spent for mass screening and eventual catheter ablation of asymptomatic WPW individuals with its attending risks can be outweighed by the potential benefits for these asymptomatic individuals.

Author-abstract. 16 Refs.

AU Sofer-T. Goldsmith-J-R. Nusselder-I. Katz-L.

IN Epidemiology Unit, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer Sheva, Israel.

JT PUBLIC HEALTH REVIEWS.

AB Gardner et al. (Br Med J 1990; 300: 423-429) reported a high relative risk for childhood leukemia among children, aged 0-24 years at time of diagnosis, born to fathers employed at the Sellafield nuclear plant in the U.K. As a result we looked for spatial and temporal trends of childhood and young adult leukemia in the Negev, where a nuclear plant has been in operation since 1960. We divided the Negev into an Eastern part where plant employees are likely to live, and a Western part where this is quite unlikely. Reported leukemia cases were provided by the Israel Cancer *Registry* for the age group 0-24, and for the period 1960-1985. We checked this file against data obtained from the hospitals in the area. We added 6 more cases in the Eastern Negev, none in the Western Negev, and none of the reported cases was discarded. There was a total of 192 cases, of which 52% were acute lymphatic leukemia. Jewish and Bedouin children were studied separately. Among Jewish children the average annual incidence rate for the Eastern Negev was 2.76/100,000, the Western Negev 3.51. Over time the leukemia rates were consistently higher in the Western Negev among children aged 0-9 years, which holds especially for acute lymphatic leukemia. There was a sudden increase among girls born during the period 1970-1979 in the northern part of the Western Negev, which was not noticed among boys. No excess cases were found in the small towns around the plant. Author-abstract.

AU Ogilvy-Stuart-A-L. Shalet-S-M.

IN Department of Endocrinology, Christie Hospital and Holt Radium Institute, Manchester, UK.

JT HORMONE RESEARCH.

AB There is growing concern about the oncogenic potential of growth hormone (GH) used therapeutically. In rat experiments, a variety of malignant tumours haremainns controversial. There is a school of thought that black patients and younger patients have a biologically more aggressive disease. We analyzed the survival of 914 patients (867 whites and 47 blacks) with localized adenocarcinoma of the prostate treated with external beam irradiation from the Connecticut SEER Tumor *Registry* data base. Patients were treated from 1973-1987, and those with Stages A1, A2 and D2 were excluded. Patients ≤ 60 years of age had a 5-year survival rate of 72% compared to 61% for those > 60 years of age ($p = 0.06$). When stratified by race, white patients had a 63% 5-year survival rate versus 47% in black patients ($p = 0.02$). When analyzed by race and age, and age-race interaction was noted. Although younger whites fared better than older whites, 77% versus 61% survival at 5 years (p

= 0.02), younger blacks fared worse than older blacks, 31% versus 52% survival at 5 years ($p = 0.21$). Blacks, on average, presented at an earlier age than whites, 65 years versus 69 years ($p = 0.001$). Both races had similar stage and similar grade of disease. In older patients, both races presented with similar stage and grade of disease and had similar survival. However, in the younger age group, black patients presented with similar grade, but higher stage disease than whites. This may explain the worse survival in young blacks compared to young whites, 31% versus 77% at 5 years ($p = 0.007$). Multivariate analysis revealed that, even controlling for stage and grade, blacks still fared worse than whites. Increased age was associated with decreased survival in whites but increased survival in blacks. Author-abstract.

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AU Ragnarsson-Oldinga. There was an increased, but nonsignificant, incidence of other cancers, based on two cases (one pinealoma and one Hodgkin's disease) occurring among those aged 15-24 years during 1984-90. This was not observed in the younger age group or in previous years. For the immediately surrounding area--that is, the county districts of Allerdale and Copeland excluding Seascale and in the remainder of Cumbria--there was no evidence of an increased incidence of cancer among those aged 0-24 years in either period. CONCLUSIONS--During 1963-83 and 1984-90 the incidence of malignant disease, particularly lymphoid leukaemia and non-Hodgkin lymphomas, in young people aged 0-24 in Seascale was higher than would be expected on the basis of either national rates or those for the surrounding areas. Although this increased risk is unlikely to be due to chance, the reasons for it are still unknown. Author-abstract.

24

AU Howard-L.

IN Albany Medical College, NY 12208.

JT JPEN. JOURNAL OF PARENTERAL AND ENTERAL NUTRITION.

AB The clinical outcome for 1362 patients with active cancer managed on home parenteral nutrition (HPN) is compared with that of 122 patients with *radiation* enteritis ("cured" cancer) and 416 patients with Crohn's disease. This longitudinal clinical information was reported to the North American Home Parenteral and Enteral Nutrition *Registry* (Oley Foundation/A.S.P.E.N. joint project) between 1985 and 1989. The data shows that the number of active cancer patients on this therapy is increasing 13% per year. The annual survival rate is 25% for patients with active cancer, as compared with 88% for patients with *radiation* enteritis and 95% for patients with Crohn's disease. Although 50% of all active cancer patients starting HPN are dead within 6 to 9 months, the prognosis is somewhat better in children, and 20% of these active cancer patients appear to do well, returning to full oral nutrition and experiencing complete rehabilitation. These are presumed to be patients with a potentially curable cancer requiring super-aggressive treatment, which causes temporary severe

gastrointestinal dysfunction. Adult active cancer patients have the same rehospitalization rate for HPN complications (once per year) as *radiation* enteritis and Crohn's disease patients. However, their rehospitalization rate for non-HPN complications is four times higher. This article reviews the factors that may explain the growth of HPN in active cancer patients and discusses some of the unanswered clinical questions that urgently need to be addressed to more effectively determine the appropriateness or inappropriateness of HPN management in the active cancer setting. Author-abstract.

25

AU dos-Santos-Silva-I. Swerdlow-A-J.

IN Department of Epidemiology and Population Sciences, London School of Hygiene and Tropical Medicine, UK.

JT BRITISH JOURNAL OF CANCER.

AB Thyroid cancer incidence has been increasing in many countries, whereas mortality has been falling due to better survival. *Radiation* is the best-established risk factor and there has been concern that recent rises in incidence might be related to fallout *radiation* from atmospheric nuclear weapon tests. We examined thyroid cancer time trends and geographical distribution in England and Wales and possible interpretations of these. During 1962-84, there were significant increases in incidence ($P < 0.001$) in each sex at ages under 45. Cohort analysis by single year of birth showed an overall increase in incidence risks in women aged 0-44 born since 1920, with a sudden rise in risk for the birth years 1952-55hamsen-A-F. Kvaloy-S. Host-H.

IN Norwegian Radium Hospital, Oslo.

JT JOURNAL OF CLINICAL ONCOLOGY.

AB PURPOSE: In the period 1968 through 1988, The Norwegian Radium Hospital (NRH) treated an unselected population of 1,152 patients with Hodgkin's disease (HD) that comprised more older patients (mean age, 43 years) than most other institutions. We considered it important to evaluate these patients for development of second cancers (SCs). PATIENTS AND METHODS: The Norwegian Cancer *Registry* identified previously untreated patients with HD treated at NRH who had developed a SC more than 1 year after diagnosis of HD. The relative risk ratio (RR) (observed/expected cases) and the cumulative risk were calculated. RESULTS: Sixty-eight patients had developed a SC, including nine acute nonlymphocytic leukemias (ANLLs), eight non-Hodgkin's lymphomas (NHLs), and 51 solid tumors, including 11 lung cancers. The RR of SC and leukemia was 1.86 (95% confidence interval `CI:, 1.4 to 2.4) and 24.3 (95% CI, 11.1 to 46.2), respectively. The RR of SC was highest in younger patients (< 41 years, $RR = 3.8$). No significant association between splenectomy and development of ANLL was found. The influence of treatment and follow-up time on the development of SC agrees with data from other large cancer institutions. CONCLUSION: (1) The low RR of developing a SC in this study is probably due to the number of older patients included, who have a lower RR of developing a SC due to less

aggressive treatment, shorter follow-up time, and higher incidence of cancer in the expected background population. (2) The low RR and cumulative risk of developing ANLL may be due to the limited use of extensive chemotherapy (CT) in our hospital in the earlier years. Author-abstract.

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AU Chan-S-L. Kagan-R. Streeter-O-E Jr. Ryoo-pericytoma are characterized by a slow, but

progressive radiographic response to ionizing *radiation,* not unlike other radiated, highly vascular brain lesions, such as arteriovenous malformations. A retrospective review of clinical demographics, sites of meningeal origin, radiographic and pathologic findings and the role of chemotherapy is also presented. Author-abstract. 42 Refs.

33

AU Bourke-W. Milstein-D. Giura-R. Donghi-M. Luisetti-M. Rubin-A-H. Smith-L-J.

IN Pulmonary Division, Northwestern University, Chicago.

JT CHEST.

AB OBJECTIVE: To define the basis for the conflicting reports on the prognosis of lung cancer in young adults. DESIGN: Retrospective review of lung cancer patients between 1977 and 1988. SETTING: Medical centers in Chicago (Northwestern Memorial Hospital), northern Israel (Rambam Medical Center), and northern Italy (S. Anna and U. of Pavia Hospitals). PATIENTS: Patients were ≤ 45 years of age with a diagnosis of primary lung cancer identified from tumor *registry* records, pathology reports, and hospital charts, plus a sample of patients > 45 years of age. MEASUREMENTS AND MAIN RESULTS: In Chicago, younger patients had a higher incidence of chest pain, fever, and neurologic symptoms at presentation than the older patients, and fewer were asymptomatic. They also had more lower lobe lesions on chest roentgenogram, a higher incidence of adenocarcinoma, more advanced disease, an increased likelihood of receiving chemotherapy, and reduced survival ($p < 0.03$). The poorer prognosis was due to more advanced disease at presentation. In Israel, younger patients more frequently presented with stage I disease than the older patients and they had a higher incidence of adenocarcinoma, an increased likelihood of receiving treatment especially surgery, and better survival ($p < 0.02$). There were no differences between the two age groups for symptoms, symptom duration, and chest roentgenogram findings. Compared with the younger patients in Chicago and Israel, those from northern Italy had more squamous cell cancers and fewer adenocarcinomas, more commonly presented with stage I or II disease, received *radiation* therapy less frequently, and were given supportive care more often. Survival was low and comparable to that reported from Chicago. CONCLUSION: Differences exist in the clinical characteristics, pathologic findings, and prognosis of younger and older patients with lung cancer from the same region and

of younger patients from different regions. The difference in prognosis is related in part to the stage of disease at presentation and the ability to undergo resectional surgery. Author-abstract.

34

- AU Parkin-D-M. Cardis-E. Masuyer-E. Friedl-H-P. Hansluwka-H. Bobev-D. Ivanov-E. Sinnaeve-J. Augustin-J. Plesko-I. et al.
IN International Agency for Research on Cancer, Lyon, France.
JT EUROPEAN JOURNAL OF CANCER.
AB The objective of the European Childhood Leukaemia-Lymphoma Incidence Study (ECLIS) is to investigate trends in incidence rates of childhood leukaemia and lymphoma in Europe, in relation to the exposure to *radiation* which resulted from the accident at the Chernobyl nuclear power plant in April 1986. In this first report, the incidence of leukaemia in children aged 0-14 is presented from cancer *registries* in 20 European countries for the period 1980-1988. Risk of leukaemia in 1987-1988 (8-32 months post-accident) relative to that before 1986, is compared with estimated average dose of *radutaneous cancer could not be assessed in this study; however, antipsoriatic treatment such as ionizing *radiation* and oral arsenicals must be considered as a possible cause of colon cancer, which has been observed in excess in two other studies of psoriatic patients. Author-abstract.

36

- AU Kaldor-J-M. Day-N-E. Bell-J. Clarke-E-A. Langmark-F. Karjalainen-S. Band-P. Pedersen-D. Choi-W. Blair-V. et al.
IN International Agency for Research on Cancer, Lyon, France.
JT INTERNATIONAL JOURNAL OF CANCER.
AB It is recognized that survivors of Hodgkin's disease are at a substantially increased risk of lung cancer. A collaborative group of population-based cancer *registries* and major treatment centers carried out a case-control study, in which 98 cases of lung cancer were identified in patients who had survived at least 1 year following a diagnosis of Hodgkin's disease. A total of 259 matched controls were selected from patients with Hodgkin's disease who did not develop subsequent lung cancer, and for both cases and controls detailed information was abstracted from medical records concerning stage and treatment of Hodgkin's disease. Patients treated with chemotherapy alone had about twice the risk of developing lung cancer than those treated by radiotherapy alone or both modalities. There was no increase in risk with cumulative number of cycles of chemotherapy. Among patients treated with radiotherapy alone, there was an increase in risk related to estimated *radiation* dose to the lung. There was also a strong association between cigarette smoking and the risk of lung cancer. The finding of a higher risk following chemotherapy than following radiotherapy was unexpected, but could not be explained by any identified methodological flaws. A plausible

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AU Oi-S. Matsumoto-S.

IN Department of Neurosurgery, Kobe University, School of Medicine,
Japan.

JT CHILDS NERVOUS SYSTEM.

AB The management of tumors of the pineal region differs between Western countries and Japan. This paper reports on a worldwide survey of individual experience and regimens for treating pineal region tumors in different patient populations. Fifteen pediatric neurosurgeons from nine different countries participated in the survey, and a total of 408 pineal region tumors were evaluated. Determination of tumor histology as an initial procedure was strongly supported by the majority of neurosurgeons in North and Central America and Europe (group A), whereas all but one from Asia and Egypt (group B) emphasized initial application of the *radiation* test. The analysis of patient populations clearly revealed racial differences in tumor type which explain this discrepancy. Germinoma, the most radiosensitive tumor, constituted 43-70% (mean: 53.7%) of tumors in group B, followed by teratoma, pineoblastoma, and others, whereas in group A the incidence of germinoma was only 21-44% (mean: 34.7%), followed by a variety of tumors, such as astrocytoma, pineoblastoma, etc. The age distribution among intracranial germ cell tumors (GCT) obtained from data from the Brain Tumor *Registry* in Japan also demonstrated clear differences in the incidence of tumor types in different age groups in Japan: while germinoma constituted 70-84% of GCT in patients between the ages of 15 and 35 years, the incidence was much lower before 15 years and after 35 years, being 24% of tumors under 4 years and 34% of tumors after 40 years of age. The therapeutic regimen for pineal region tumors should depend on the patient population concerned, because of the differences relating to race and age distribution. Author-abstract.

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AU Travis-L-B. Kathren-R-L. Boice-J-D Jr.

IN *Radiation* Epidemiology Branch, National Cancer Institute, National Institutes of Health, U.S. Department of Health and Human Services, Rockville, MD 20852.

JT HEALTH PHYSICS.

AB Radioactive measurements and histopathologic findings are described in a patient administered Thorotrast, a radiographic contrast agent, 36 y prior to death and compared with cancer risks noted in epidemiologic studies. This person designated as U.S. Uranium *Registry* (USUR) Case 1001: had prearranged for donation of her body to the USUR and the National Cancer Institute for study. Elevated levels of radioactivity were noted in those organs in which excess cancers have been reported in epidemiologic surveys of Thorotrast-exposed subjects. Hepatic tissue in USUR Case 1001 was estimated to have received an average lifetime absorbed dose of 16.2 Gy, based on radiochemical analyses, consistent with the high risks for liver tumors reported in all studied populations. Thorotrast was present throughout the bone marrow of USUR Case 1001, who died

secondary to complications of refractory anemia with excess blasts (RAEB). Elevated risks for acute myeloid leukemia have been noted in Thorotrast patients, and more recently, cases of RAEB and RAEB in transformation have been reported. The thorium decay series includes the bone-seeking radionuclides ^{224}Ra and ^{228}Ra , which have been associated with high risks for osteosarcomas, although the association between Thorotrast and bone cancer is not as convincing. The skeleton of USUR Case 1001, however, contained significant levels of radioactivity. Other tissues evaluated in USUR Case 1001 included

t, Universitaet

Munchen, Germany.

JT BONE MARROW TRANSPLANTATION.

AB Cancer may be serious late effect of marrow transplantation.

Radiation, chemotherapy, immunosuppression and the original disease for which transplantation was performed may predispose to the development of cancer. 116 of 9732 patients reported to the IBMTR (International Bone Marrow Transplant *Registry)* have developed a new malignancy. Late effects were evaluated by the EBMT-EULEP (European Bone Marrow Transplant-European Late Effect Project) Late Effect Study Group in 147 patients surviving 6 years and 79 patients surviving more than 10 years. New malignancies developed in 11 of these patients. Lymphomas and leukemia comprised 73 cases reported to the IBMTR and one case reported to the EBMT-EULEP study. Tumors of the skin, oropharynx, vulva vagina and cervix prevailed in 41 patients with solid tumors. The distribution of malignancies is similar to that observed in organ transplant patients not given *radiation* or chemotherapy and suggests immunosuppression as a major contributory factor. In dogs the incidence of malignancies was studied after either chemotherapy or total body *radiation* in various regimens and marrow transplantation. Both chemotherapy and *radiation* shortened tumor-free survival in comparison to untreated dogs. Higher doses, larger fractions and shorter treatment schedules enhanced earlier tumor development. Soft tissue sarcomas and thyroid carcinoma were most frequent in treated, mammary carcinoma in untreated dogs. In treated dogs deaths from cancer were observed starting at the age of 5 years as compared to untreated dogs at the age of 9 years. The data from animal experiments indicate that the incidence of solid tumors in marrow transplant patients may still rise in the coming decades. Author-abstract.

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emothotherapy was the predominant treatment. Ninety-nine patients met study criteria, with a median follow-up of 11.4 years (range 0.5 to 41 years). The patient group was compared to patients of all ages, treated at Memorial Sloan-Kettering Cancer Center in 1960 (5 and 10 years) and to patients treated between 1940 and 1943 (30 year follow-up). At the 5, 10, and 30 year follow-up periods, patients in the young age group consistently had disease-specific survival 10-20% lower than their older counterparts. For young patients who survived their first cancer diagnosis, second primaries both in the

contralateral breast and elsewhere, played a significant role in determining their subsequent life span. When compared to risks of second primary cancers in the National Cancer Institute's SEER (Surveillance, Epidemiology and End Results Program) Cancer *Registry* for all ages, the increased risk for very young breast cancer patients was significant ($p = 0.000$). With these two findings in mind, treatment for young patients with breast cancer should focus not on local therapy options alone but on the increased risk of both systemic disease and of second primaries. Author-abstract.

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AU Greenwald-H-P. Henke-C-J.

IN Sacramento Center, School of Public Administration, University of Southern California.

JT AMERICAN JOURNAL OF PUBLIC HEALTH.

AB OBJECTIVES. Treatment and mortality risk were compared between prostate cancer patients receiving care in fee-for-service settings and those receiving care in a health maintenance organization (HMO). METHODS. Two samples were obtained from a population-based tumor *registry.* Patients in the first sample ($n = 201$) were interviewed shortly after diagnosis to obtain data on income, education, overall health status, and expenditures for health status, and expenditures for health care. These data were combined with information from the tumor *registry* on cancer stage, age, treatment, place of residence, and source of care. Only tumor *registry* data were obtained for most patients in the second sample ($n = 962$). For both samples, survival time was monitored for up to 80 months. RESULTS. Multivariate analysis of data from the interviewed sample indicated that HMO patients were less likely to receive surgery but more likely to receive *radiation* therapy than were those in fee-for-service settings. Mortality risk was lower for the HMO patients than for those in fee-for-service plans. Findings based on the second sample were nearly identical. CONCLUSIONS. This study suggests that HMOs may offer important advantages to lower-income patients at risk for specific life-threatening diseases. Author-abstract.

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AU Bortin-M-M. Horowitz-M-M. Gale-R-P. Barrett-A-J. Champlin-R-E. Dicke-K-A. Gluckman-E. Kolb-H-J. Marmont-A-M. Mroczek-M. et al.

IN International Bone Marrow Transplant *Registry,* Department of Medicine, Medical College of Wisconsin, Milwaukee 53226.

JT JAMA.

AB OBJECTIVE--To identify changes in practice and outcome of bone marrow transplants for leukemia in the 1980s. DESIGN--Comparison of key explanatory and outcome variables in five 2-year cohorts, from 1980 through 1981 to 1988 through 1989, using a large database of detailed clinical information. PATIENTS--Recipients (7788) of bone marrow transplants for acute lymphoblastic, acute myelogenous, or chronic myelogenous leukemia reported to the International Bone Marrow Transplant *Registry,* Milwaukee, Wis, by 185 transplant teams

worldwide. RESULTS--Linear increases occurred during the periods 1980 through 1981

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AU Blatt-J. Olshan-A. Gula-M-J. Dickman-P-S. Zaranek-B.

IN Department of Pediatrics, Children's Hospital of Pittsburgh, Pennsylvania 15213.

JT AMERICAN JOURNAL OF MEDICINE.

AB PURPOSE: Although most second malignancies are treatment related, their occurrence also may be due to an underlying systemic disease or chromosomal abnormalities shared by multiple organs in which they are tumorigenic. We attempted to identify unusual tumor pairs that might provide a clue to shared genetic etiologies. PATIENTS AND METHODS: Medical records and tumor *registry* correspondence of 1,743 patients (0 to 18 years at diagnosis) were reviewed. For those said to have a second malignancy, biopsy and autopsy records and slides were reviewed to confirm initial and secondary diagnoses. RESULTS: Two hundred fifty-eight patients had follow-up of at least 10 years and 157 of at least 20 years. Second malignancies were identified in 14 patients. The estimated cumulative incidence of a second cancer was approximately 1% within 10 years. At 20 years after diagnosis, the actuarial estimate was 3%. Although most second cancers were likely treatment related, several tumor pairs could not clearly be explained on that basis, including thyroid carcinoma followed by an ovarian sarcoma, and acute lymphoblastic leukemia associated with renal leiomyosarcoma. Based on one case in this series and a review of the literature, associations between Wilms' tumor, abdominal *radiation,* and adenocarcinoma of the colon and hepatocellular carcinoma are suggested. CONCLUSIONS: We conclude that continued surveillance of very-long-term survivors of childhood cancer, which is usually accomplished by internists, family practitioners, and adult oncOLOGIE.

AB From January 1977 through December 1989, a total of 1,569 patients with pharyngolaryngeal cancer (oropharynx: 240, nasopharynx: 221, hypopharynx: 246, and larynx: 862) were treated at the Department of Radiology, Osaka University Hospital and the Department of *Radiation* Therapy, The Center for Adult Diseases, Osaka. The incidence of other primary cancers in these patients was investigated using the data base of *radiation* therapy combined with information from hospital-based and Osaka prefectural cancer *registries.* One hundred and seventy-six of the 1,569 patients (11%) had other primary cancers (oropharynx: 21%, nasopharynx: 7%, hypopharynx: 13%, and larynx: 9%). The time of development of other primary cancers in more than 50% of the cases ranged between one year before and one year after the diagnosis of primary pharyngolaryngeal cancer. The expected number of the second primary cancer was estimated by multiplying the age-sex specific incidence rates for Osaka residents with person-years at risk based on Osaka prefectural cancer *registry* data. The observed/expected (O/E) ratios were 3.17 (p less than 0.01) for oropharyngeal, 2.01 (p less than 0.01) for nasopharyngeal, 2.16 (p less than 0.01) for hypopharyngeal and 1.10 (n.s.) for laryngeal

cancer. The most common sites of the second primary cancer in order of frequency were: the oral cavity and pharynx, esophagus and lung for oropharyngeal cancer, the oral cavity and pharynx for nasopharyngeal cancer, the oral cavity and pharynx and the esophagus for hypopharyngeal cancer and the oral cavity and pharynx, esophagus and lung for laryngeal cancer. Author-abstract.

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AU Schraub-S. Sun-X-S. Maingon-P. Horiot-J-C. Daly-N. Keiling-R. Pigneux-J. Pourquier-H. Rozan-R. Vrousos-C.

IN Cancer *Registry* of Doubs, Besancon, France.

JT CANCER.

AB From 1967 to 1990, 96 previously untreated patients with cervicovaginal cancer associated with a history of vaginal pessary use to control uterovaginal prolapse were referred to eight *radiation* therapy departments in France. Sixty-eight patients had cervical cancer, and 28 had vaginal cancer. The mean interval between pessary insertion and cancer diagnosis was 18 years, with a range of 1 to 41 years. Most patients received *radiation* therapy and brachytherapy. Few (5%) had Grade 3 treatment side effects. The overall 5-year relative survival rate was 54%; nonsurvival was related to locoregional recurrence. Because almost all tumors occurred at the site of pessary insertion, foreign body chronic inflammation in association with viral infection may be the cause of the tumors. Author-abstract.

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AU Nambi-K-S. Mayya-Y-S. Rao-D-D. Soman-S-D.

IN Health and Safety Group, Bhabha Atomic Research Centre, Bombay, India.

JT ARCHIVES OF ENVIRONMENTAL HEALTH.

AB Cancer mortality risks for individuals who were employed at nuclear facilities in Tarapur and for their respective family members with whom they lived were examined. Cancer deaths that occurred in this population between 1971 and 1988 were compared with death rates published by the Bombay City Cancer *Registry.* Risks were expressed as standardized mortality ratios (SMRs), which were computed by dividing the observed number of deaths by the expected number of deaths and multiplying this value times 100. There were 11 deaths from cancer among the employees, and this figure was too small to permit any trend analysis with respect to *radiation* exposures. The SMRs for all cancers and leukemia for male employees and for middle-aged male family members who were not exposed to any *raure* occurred in 25%, surface excrescences in 40%, and adhesions in 46%. None of these factors had a significant effect on recurrence rate or survival. Eleven patients received adjuvant *radiation* therapy (10 abdomino-pelvic and 1 pelvic alone), four adjuvant chemotherapy, and one both *radiation* therapy and chemotherapy. The rest (65) received no adjuvant therapy. Due to the small numbers and infrequent events, it was not possible to analyze and thus draw valid conclusions

regarding the effect of adjuvant therapy on survival or recurrence. The overall survival (OS) and cause specific survival (CSS) were 85% and 96% at 10 years, respectively. No Stage I patient died of tumor. OS for Stage I patients was 90% at 10 years, the majority of whom (61 of 63) received no adjuvant therapy, and is thus unnecessary in Stage I disease. The adequacy of unilateral oophorectomy or ovarian cystectomy could not be confirmed because of small numbers. The 10 year OS and disease-free survival in Stage II and III were 75% and 50%, respectively, despite the use of adjuvant *radiation* therapy, chemotherapy, or both. It is necessary to create a multi-center tumor *registry* in order to acquire a prospective data base from which to develop sound therapeutic decisions. Author-abstract.

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- AU Hall-P. Berg-G. Bjelkengren-G. Boice-J-D Jr. Ericsson-U-B. Hallquist-A. Lidberg-M. Lundell-G. Tennvall-J. Wiklund-K. et al.
IN Department of General Oncology, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden.
JT INTERNATIONAL JOURNAL OF CANCER.
AB Cancer mortality was studied in 10,552 Swedish hyperthyroid patients treated with ¹³¹I between 1950 and 1975. The patients were matched with the Swedish Cause-of-Death Register and the cases of 977 patients to have received more treatment. There also was a trend ($P = 0.12$) for Hispanic patients to have a more advanced stage of cancer. Hispanic patients lost significantly more weight (P less than 0.001) and had significantly lower serum albumin levels (P less than 0.0001). According to the results of multivariate survival analyses, the variables that were predictive of a poor prognosis included advanced stage of disease, decreased serum albumin levels, increased weight loss, administration of chemotherapy, lack of *radiation* therapy or surgery, and advanced age. Ethnicity was not a significant predictor of survival either in univariate analyses, or within patients with the same stage of disease, or after adjustment for other prognostic factors. In conclusion, the natural history of squamous cell carcinoma of the head and neck is the same for Hispanic and Anglo-American patients. Author-abstract.

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- AU Takahashi-N. Minoda-K.
IN Department of Ophthalmology, Ichihara Hospital, Teikyo University School of Medicine, Chiba, Japan.
JT JAPANESE JOURNAL OF OPHTHALMOLOGY.
AB Retrospective studies were made of patients with orbital rhabdomyosarcoma (RMS) who were registered in the Japan Children's Cancer *Registry* and the National *Registry* of Ocular Tumors in Japan during 1974-1989. Thirty-five children under 15 years of age were registered as orbital RMS patients. The median age of onset was 5 years and 2 months; lid swelling was the most frequent initial symptom and finding. Histologically, 79% were classified as the

embryonal type. Orbital exenteration was the standard treatment until the mid-1970's, but all the 5 patients who had only surgical therapy experienced relapses. Since the mid-1970's, a combined regimen of surgery, *radiation* and chemotherapy has been used. Chemotherapy has recently been considered to play the most important role in this combined therapy. Among the 35 patients studied, three patients with only biopsy as the surgical procedure have had no relapses up to the present time. Recurrent tumors developed in 15 of the remaining 32 patients: 7 of those were local, 8 were distant. All relapses (10 of the 14 patients in the 1970's, and 5 of the 18 in the 1980's) occurred within 1 year and 11 months after initial treatment. The 3-year survival rate of these 32 patients, estimated by the Kaplan-Meier method, was 70% (52% in the 1970's, 86% in the 1980's). Author-abstract.

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AU Mabuchi-K. Soda-M.

IN Department of Epidemiology, *Radiation* Effects Research Foundation, Hiroshima, Japan.

JT JOURNAL OF *RADIATION* RESEARCH.

AB A tumor *registry* is essential in the systematic collection and analysis of tumor data in a defined population. Population-based tumor *registries* have been in operation for more than 30 years in Hiroshima and Nagasaki. While the tumor *registry* data have previously been used for many site-specific cancer studies in atomic bomb survivors, overall analysis of tumor *registry* based cancer incidence data among the atomic bomb survivors has not been undertaken for some time. However, a recent improvement in the tumor *registries* has made it possible to analyze most recent cancer incidence data among the Life Span Study population. Preliminary analysis under way indicates a potential power of the data. There are a few methodological problems associated with the use of the incidence data, especially relating to consistency of data and migration. Several measures taken to resolve such problems are discussed. Author-abstract.

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AU Boice-J-D Jr. Mandel-J-S. Doody-M-M. actors with attained age. It is interesting that 10% of all technologists allowed others to practice taking radiographs on them during their training. Nearly 4% of the respondents reported having some type of cancer, mainly of the skin (1517), breast (665), and cervix (726). Prospective surveys will monitor cancer mortality rates through use of the National Death Index and cancer incidence through periodic mailings of questionnaires. This is the only occupational study of *radiation* employees who are primarily women and should provide new information on the possible risks associated with relatively low levels of exposure. Author-abstract.

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AU Gluckman-E. Horowitz-M-M. Champlin-R-E. Hows-J-M. Bacigalupo-A. Biggs-J-C. Camitta-B-M. Gale-R-P. Gordon-Smith-E-C. Marmont-A-M. et al.

IN International Bone Marrow Transplant *Registry,* Medical College of Wisconsin 53226.

JT BLOOD.

AB Data for 595 patients with severe aplastic anemia receiving HLA-identical sibling bone marrow transplants were analyzed to determine the effect of pretransplant conditioning and graft-versus-host disease (GVHD) prophylaxis on outcome. Transplants were performed between 1980 and 1987 and reported to the International Bone Marrow Transplant *Registry.* Three conditioning regimens (cyclophosphamide alone, cyclophosphamide plus limited field *radiation,* and cyclophosphamide plus total body *radiation)* were studied; none was associated with superior long-term survival. Three GVHD prophylaxis regimens (methotrexate, cyclosporine, and methotrexate plus cyclosporine) were studied. Recipients of cyclosporine with or without methotrexate had a significantly higher probability of 5-year survival (69%, 95% confidence interval 63% to 74%) than patientserapy. Two had complete remission, and one had partial remission. Five patients died as a result of the desmoid tumor or late complications of chemotherapy. Three intra-abdominal desmoids were treated by *radiation* therapy with no response. Neither cytotoxic chemotherapy nor *radiation* therapy is recommended as a first-choice treatment for intra-abdominal desmoid tumors in patients with FAP. Author-abstract.

79

AU Horn-Ross-P-L. West-D-W. Brown-S-R.

IN Northern California Cancer Center, Alameda, CA 94501.

JT INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.

AB Beginning in 1985, a sudden and sustained doubling of salivary gland cancer incidence, among men only, is observed in the San Francisco-Oakland Metropolitan Statistical Area. *Registry* data are examined to determine the nature of this increase and its possible association with the AIDS epidemic. Changes in patient characteristics are assessed by comparing their distribution among recently diagnosed cases (1985-1988) to an expectation based on population growth and the age-specific incidence among patients diagnosed earlier (1973-1984). Based on the observed patterns, it is unlikely that the temporal increase in these tumours is a direct result of the AIDS epidemic or solely the result of a shift in the prevalence of established risk factors. The increase is predominantly seen in men over the age of 75 at diagnosis ($O/E = 2.3$, $p = 0.02$) and is observed among both those with and without a prior cancer ($O/E = 2.7$, $p = 0.02$ and $O/E = 1.5$, $p = 0.06$, respectively). *Radiation* for the prior cancer was not associated with increased occurrence. Military exposure is crudely approximated by examining birth cohorts. However, the cohort data do not support a hypothesis

of military exposure. Author-abstract.

80

AU Czeizel-A-E. Elek-C. Susanszky-E.

IN Department of Human Genetics and Teratology, National Institute of Hygiene, Budapest, Hungary.

JT MUTAGENESIS.

AB The genetic consequences of radioactive fall-out deposition from the Chernobyl (USSR) accident in Hungary was evaluated as a part of the ongoing programme on the population-based Hungarian Surveillance of Germinal Mutations. The surveillance is based on three groups of indicator conditions: 15 sentinel anomalies (indicators of germinal dominant gene mutations), Down's syndrome (an indicator of germinal numerical and structural chromosomal mutations) and unidentified multiple congenital abnormalities (indicators of germinal dominant gene and chromosomal mutations). Cases with these indicator conditions were selected from the material of the Hungarian Congenital Abnormality *Registry.* After the diagnostic accuracies were checked, familial and sporadic cases were separated. Only the latter group was evaluated for evidence of new mutations. The analysis did not reveal any measurable germinal mutagenic effects of the Chernobyl accident. Furthermore, there were no significant differences in the rates of these three groups of indicator conditions between regions with higher and lower increased background *radiation.* Author-abstract.

81

AU Prisyazhiuk-A. Pjatak-O-A. Buzanov-V-A. Reeves-G-K. Beral-V.

JT LANCET.

82

AU Sener-S-F. Fremgen-A. Imperato-J-P. Sylvester-J. Chmiel-J-S.

IN Cancer Incidence and End Results Committee, American Cancer Society, Chicago, Illinois 60603.

JT AMERICAN SURGEON.

AB A retrospective study of survival results for pancreatic cancer was performed. The study had two objectives: 1) to relate thenital abnormality entities and the components of fetal

radiation syndrome did not show a higher rate after the Chernobyl accident in the data-set of the Hungarian Congenital Abnormality *Registry.* Among confounding factors, the rate of induced abortions did not increase after the Chernobyl accident in Hungary. In the 9th month after the peak of public concern (May and June, 1986) the rate of livebirths decreased. Three indicator conditions: 15 sentinel anomalies as indicators of germinal dominant gene mutations, Down syndrome as an indicator of germinal numerical and structural chromosomal mutations, and unidentified multiple congenital abnormalities as indicators of germinal dominant gene and chromosomal mutations were selected from the material of the Hungarian Congenital Abnormality *Registry.* Diagnoses were checked, familial and sporadic

cases were separated and only the sporadic cases were evaluated. The analysis of indicator conditions did not reveal any measurable germinal mutagenic effect of the Chernobyl accident in Hungary. Author-abstract.

84

AU Irgens-L-M. Lie-R-T. Ulstein-M. Skeie-Jensen-T. Skjaerven-R. Sivertsen-F. Reitan-J-B. Strand-F. Strand-T. Egil-Skjeldestad-F.
IN Medical Birth *Registry* of Norway, University of Bergen.
JT BIOMEDICINE AND PHARMACOTHERAPY.
AB Pregnancy outcome has been studied in terms of legal abortions, early spontaneous abortions and total number of pregnancies (in an ad hoc study covering 6 counties) as well as various perinatal health problems (on the basis of routinely recorded data for epidemiological surveillance from the Medical Birth *Registry* of Norway). Apparently, no effects were observed in terms of an increased occurrence of legal abortions, while spontaneous abortions increased from 7.2% of all CI 1.20-2.58). No specific cancer or group of cancers could be convincingly linked to high-dose ¹³¹I exposures since SIR did not increase after 10 years of observation. However, upper confidence intervals could not exclude levels of risk that would be predicted based on data from the study of atomic bomb survivors. We conclude that the current practice of extrapolating the effects of high-dose exposures to lower-dose situations is unlikely to seriously underestimate *radiation* hazards for low LET *radiation.* Author-abstract.

91

AU Andersson-M. Storm-H-H. Mouridsen-H-T.
IN Danish Cancer *Registry,* Institute of Cancer Epidemiology, Copenhagen.
JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.
AB The incidence of new primary cancers was evaluated in 3538 postmenopausal patients who had received surgical treatment for primary breast cancer. Of these patients, 1828 with a low risk of recurrence received no further treatment. High-risk patients were randomly assigned to one of two groups. The first group (n = 846) received postoperative radiotherapy, while the second group (n = 864) received radiotherapy plus tamoxifen at a dose of 30 mg given daily for 48 weeks. The median observation time was 7.9 years. In comparison with the number of new cancers in the general population, the number of new cancers in the three groups was elevated mostly due to a high number of cancers of the contralateral breast and of colorectal cancers in the high-risk groups. The cumulative risk of nonlymphatic leukemia was increased among patients who received postoperative radiotherapy (P = .04). Cancer incidence in the high-risk tamoxifen-treated group relative to that in the high-risk group not treated with tamoxifen was not significant (1.3). No protective effect of tamoxifen on the opposite breast was seen (rate ratio for breast cancer = 1.1), but a tendency to an elevated risk of endometrial cancer was observed (rate ratio = 3.3; 95% confidence

interval = 0.6-32.4). Continued and careful follow-up of women treated with tamoxifen is necessary to clarify the potential cancer-suppressive or cancer-promoting effects of this drug.
Author-abstract.

92

AU Zack-M. Adami-H-O. Ericson-A.

IN Centers for Disease Control, Atlanta, Georgia 30333.

JT CANCER RESEARCH.

AB This report describes an exploratory population-based study of maternal and perinatal risk factors for childhood leukemia in Sweden. The Swedish National Cancer *Registry* ascertained 411 cases in successive birth cohorts from 1973 through 1984 recorded in the Swedish Medical Birth *Registry.* Using the latter, we matched five controls without cancer to each case by sex and month and year of birth. Mothers of children with leukemia were more likely to have been exposed to nitrous oxide anesthesia during delivery than mothers of controls `odds ratio (OR) = 1.3; 95% confidence interval (CI) = 1.0, 1.6:.. Children with leukemia were more likely than controls to have Down's syndrome (OR = 32.5; 95% CI = 7.3, 144.0) or cleft lip or cleft palate (OR = 5.0; 95% CI = 1.0, 24.8); to have had a diagnosis associated with difficult labor but unspecified complications (OR = 4.5; 95% CI = 1.1, 18.2) or with other conditions of the fetus or newborn (OR = 1.5; 95% CI = 1.1, 2.1), specifically, uncomplicated physiological jaundice (OR = 1.9; 95% CI = 1.2, 2.9); or to have received supplemental oxygen (OR = 2.6; 95% CI = 1.3, 4.9). Because multiple potential risk factors were analyzed in this study, future studies need to check these findings. We did not confirm the

ren-M. Molin-L. et
al.

IN Department of Dermatology, Karolinska Hospital, Stockholm, Sweden.

JT LANCET.

AB There is concern about the long-term carcinogenic effects of psoralen and ultraviolet A *radiation* (PUVA) therapy for treatment of skin disorders. A study of 4799 Swedish patients (2343 males, 2056 females; mean age at first treatment 45.3 years, range 6-93; mean follow-up 6.9 years males, 7.2 years females) who received PUVA between 1974 and 1985 showed a dose-dependent increase in the risk of squamous cell cancer of the skin. Male patients who had received more than 200 treatments had over 30 times the incidence of squamous cell cancer found in the general population. Significant increases (p less than 0.05) were also found in the incidences of respiratory cancer in males and females, pancreatic cancer in males, and kidney and colonic cancer in females. This study confirms previous reports of a dose-dependent increase in the incidence of squamous cell cancer in patients treated with PUVA. Author-abstract.

95

AU Taghian-A. de-Vathaire-F. Terrier-P. Le-M. Auquier-A.

Mouriesse-H. Grimaud-E. Sarrazin-D. Tubiana-M.

IN Department of *Radiation* Therapy, Institut Gustave Roussy, Villejuif, France.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

AB Between 1954 and 1983, 7620 patients were treated for breast carcinoma at Institut Gustave Roussy (France). Of these patients, 6919 were followed for at least 1 year. Out of these, 11 presented with sarcomas thought to be induced by irradiation, 2 of which were Steward-Treves Syndrome, and 9 of which were sarcomas within the irradiated fields. All histological slides were reviewed and a comparison with those of breast cancer was done. The sites of these skin tumors. Malignant melanoma, however, was not significantly elevated. Overall, 80 neoplasms were identified from an extensive search of the pathology logs of all major hospitals in Israel and computer linkage with the national cancer *registry.* *Radiation* dose to the scalp was computed for over 10,000 persons irradiated for ringworm (mean 7 Gy), and incidence rates were contrasted with those observed in 16,000 matched comparison subjects. The relative risk of radiogenic skin cancer did not differ significantly between men or women or by time since exposure; however, risk was greatest following exposures in early childhood. After adjusting for sex, ethnic origin, and attained age, the estimated excess relative risk was 0.7 per Gy and the average excess risk over the current follow-up was 0.31/10(4) PY-Gy. The risk per Gy of *radiation-induced* skin cancer was intermediate between the high risk found among whites and no risk found among blacks in a similar study conducted in New York City (Shore et al., Radiat. Res. 100, 192-204, 1984). This finding suggests the role that subsequent exposure to uv *radiation* likely plays in the expression of a potential *radiation-induced* skin malignancy. Author-abstract.

102

AU Samet-J-M. Stolwijk-J. Rose-S-L.

IN New Mexico Tumor *Registry,* Cancer Center, University of New Mexico, Albuquerque, NM 87131.

JT HEALTH PHYSICS.

103

AU Hoel-D-G. Dinse-G-E.

IN Division of Biometry and Risk Assessment, National Institute of Environmental Health Science, Research Triangle Park, NC 27709.

JT ENVIRONMENTAL HEALTH PERSPECTIVES.

AB In this paper we combine Japanese data on *radiation* exposure and cancer mortality with U.S. data on cancer incidence and lethality to estimate the effects of ionizing *radiation* on cancer incidence. The analysis is based on the mathematical relationship between the mortality rate and the incidence and lethality rates, as well as on statistical models that relate Japanese incidence rates to U.S. incidence rates and *radiation* risk factors. Our approach assumes that the risk of death from causes other than the cancer does not depend on whether or not the cancer is present, and among individuals

with the cancer, the risk of death attributable to the cancer is the same in Japan and the U.S. and is not affected by *radiation* exposure. In particular, we focus on the incidence of breast cancer in Japanese women and how this incidence is affected by *radiation* risk factors. The analysis uses Japanese exposure and mortality data from the *Radiation* Effects Research Foundation study of atomic bomb survivors and U.S. incidence and lethality data from the Surveillance, Epidemiology, and End Results *Registry.* Even without Japanese incidence data, we obtain reasonable estimates of the incidence of breast cancer in unexposed Japanese women and identify the *radiation* risk factors that affect this incidence. Our analysis demonstrates that the age at exposure is an important risk factor, but that the incidence of breast cancer is not affected by the city of residence (Nagasaki versus Hiroshima) or the time since exposure. Author-abstract.

104

AU Ashby-M-A. McEwan-L.
IN Royal Adelaide Hospital, North Terrace, Australia.
JT CLINICAL ONCOLOGY (ROYAL COLLEGE OF RADIOLOGISTS).
AB Non-melanoma skin cancer (NMSC) is rarely recorded in cancer *registries* and it is only relatively recently that the serious public health implications, especially in terms of morbidity and expense, have been appreciated. Increased recreational sun e

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AU Alexander-F-E. Ricketts-T-J. McKinney-P-A. Cartwright-R-A.
IN Department of Pathology, University of Leeds, UK.
JT LANCET.
AB High rates of leukaemia in children and young people have been associated with features of community isolation and population growth. Incidence data collected by two specialist *registries* were used to compare incidence rates at ward level with relevant ward characteristics derived from routine census and Ordnance Survey data for England and Wales. An excess risk of childhood acute lymphoblastic leukaemia (ALL) was found for wards which are farthest from large urban centres. The excess was greatest for wards of higher socioeconomic status and for children aged 1-7 years (the childhood peak), for which a two-fold excess was seen. These findings in general support the hypothesis that childhood leukaemia has an infectious aetiology. Author-abstract.

106

AU Quast-U. Dutreix-A. Broerse-J-J.
IN Department of Radiotherapy, University Hospital, Essen, F.R.G.
JT RADIOTHERAPY AND ONCOLOGY.
AB Clear and complete documentation of the physical parameters of total body irradiation (TBI) is one of the essential requirements for the evaluation and improvement of the clinical results of TBI. Concerning the dosimetric aspects of TBI, a number of recommendations have been formulated with emphasis on basic dosimetry, patient

dosimetry and dose specification. The dosimeters should be calibrated regularly with reference to the absorbed dose in water. Depth dose measurements should be performed in water equivalent phantoms of specified dimensions. It has been strongly suggested to measure the absorbed dose at the surface of the patient at 8 different regions at the entry and exit of the beam under TBI conditions. The reference dose to the patient should be speci

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AU Lloyd-R-D. Gren-D-C. Simon-S-L. Wrenn-M-E. Hawthorne-H-A.
Lotz-T-M. Stevens-W. Till-J-E.

IN Dept. of Environmental Sciences and Engineering, School of Public
Health, University of North Carolina, Chapel Hill 27599.

JT HEALTH PHYSICS.

AB External gamma-ray exposures from fallout originating at the Nevada Test Site (NTS) have been assigned to 6,507 individual subjects (1,177 leukemia cases and 5,330 control subjects) who died as Utah residents between 1952 and 1981. Leukemia cases were identified, confirmed, and classified by cell type from the Utah Cancer *Registry,* Utah State vital records, and medical records. Residential histories were obtained from the Deceased Membership File (DMF) of the Church of Jesus Christ of Latter-day Saints (LDS), supplemented by information from the LDS Church Census Records that were taken in 1950, 1955, and 1960-62. Control subjects were selected randomly within age strata from the DMF and were frequency-matched to the cases by age at death and for sex. Individual *radiation* exposures were assigned as a function of residence location and time interval for each residence during the fallout period (1951-1958) using geographic exposure data taken from the literature. Temporal distribution of exposure for subjects who resided in more than one locality or who were born or died during the fallout period was determined from data of other investigators. Calculated gamma-ray exposures for each place of residence were summed for each subject to yield the exposure to fallout from the NTS. Author-abstract.

114

AU Ryberg-M. Lundell-M. Nilsson-B. Pettersson-F.

IN Department of Gynaecological Oncology, Karolinska Hospital,
Stockholm, Sweden.

JT ACTA ONCOLOGICA.

AB One hundred and seven cases of malignant tumours occurred among 788 women irradiated 1912 to 1977 for metropathia. One hundred and seventy-three women out of 1,219 referred for the same diagnosis and not irradiated developed a malignant tumour. The tumours were diagnosed between 1958 and 1982. The relative risk of malignant tumours among the irradiated women was 1.22 and among the non-irradiated 1.09 compared to cancer *registry* data. A statistically non-significant increase of the relative risk was found in the irradiated patients for tumours of the rectum (1.58), colon (1.46), and the nervous system (1.67). A decreased overall relative risk was seen for cancer of the breast (0.92) after irradiation, but

women treated at the age of 50 or more had an increased risk (2.08). The relative cancer risk of the heavily irradiated sites was not increased during the first 20 years after irradiation, but a statistically significant increase of the risk was seen after 30 years. Author-abstract.

115

AU Steinstrasser-A. Schwarz-A. Kuhlmann-L. Seidel-L. Niemann-E. Bosslet-K.

IN Hoechst AG, D-6230 Frankfurt, FRG.

JT DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION.

AB Immunoscintigraphy is a new method for in vivo diagnosis of diseases using monoclonal antibodies. Emphasis is placed on diagnosis of malignant tumors although the range of application includes a number of non-malignant diseases. To date, no European country has issued clear guidelines on the testing and registration of those monoclonal antibodies labelled with a radionuclide and used for diagnostic. This involves the risk of overregulation which would considerably reduce the applicability of the method. This holds particularly true since the complications initially anticipated with the use of such compounds did not occur. The conduct of immunoscintigraphy has evolved linked to the Swedish Cancer Register (1958-1983) and the Swedish Cause-of-Death Register (1952-1983). Ninety-five cases of childhood cancer before the age of 16 were identified. Two controls from the Twin Register were matched to each case by sex and year of birth. Maternal X-rays during pregnancy were documented for 41% of the cases and 36% of the controls. The crude relative risk of any childhood cancer associated with any prenatal X-ray was 1.2 (95% CI; 0.7-2.1). For the cases 64% of the X-rayed women had had abdominal X-rays, the numbers for the controls were 57%. Fifty-nine per cent of the X-rayed women had had abdominal X-rays, which were associated with a relative risk for all cancers of 1.4 (CI; 0.8-2.5), leukemias 1.7 (CI; 0.7-4.1) and tumors of the central nervous system 1.5 (CI; 0.5-4.2). There was no apparent confounding by mother's age, drug use, obstetric complications, previous miscarriages, social class or length of pregnancy. The observed relative risks of cancer following prenatal X-ray exposure are consistent with previous studies, suggesting that the developing fetus may be more sensitive to the carcinogenic effects of ionizing *radiation* than are children irradiated post-natally. Author-abstract.

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AU Gale-R-P. Horowitz-M-M.

IN Department of Medicine, UCLA School of Medicine 90024-1678.

JT BONE MARROW TRANSPLANTATION.

AB We studied 2254 persons receiving HLA-identical sibling bone marrow transplants for acute myelogenous leukemia (AML) or acute lymphoblastic leukemia (ALL) in first remission, or chronic myelogenous leukemia (CML) in first chronic phase to determine

whether graft-versus-leukemia (GvL) reactions are important in preventing leukemia recurrence after bone marrow transplantation. Four groups were for current studies on treatment-induced cellular changes and on more aggressive therapy for these patients. Author-abstract.

122

AU Rutqvist-L-E. Johansson-H.

IN Oncologic Centre, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden.

JT BRITISH JOURNAL OF CANCER.

AB To examine the hypothesis that radiotherapy for breast cancer can cause myocardial infarction, cause-specific mortality by laterality of the primary tumour was analysed among 54,617 breast cancer patients reported to the Swedish Cancer *Registry* during 1970-1985. The rationale was that radiotherapy for a left-sided breast cancer invariably results in higher doses of *radiation* to the myocardium than a similar treatment given for a right-sided tumour whereas other possible risk factors for cardiovascular disease probably are unrelated to the laterality of the tumour. The median follow-up was 9 years (range 1-17 years). Patients with left-sided tumours were found to have a higher mortality due to myocardial infarction than patients with right-sided tumours (P less than 0.01) but there was no difference in regard to total intercurrent mortality. Further analyses of individual radiotherapy studies are warranted to quantify the excess risk associated with *radiation* and to study the significance of the type of *radiation,* portal arrangements, total dose and fractionation. It seems reasonable to assume that adverse effects of *radiation* are dose-related and may thus be minimised or prevented by the use of appropriate treatment techniques. Author-abstract.

123

AU Kobayashi-Y. Arimoto-H. Ono-I. Watanabe-S.

IN Epidemiology Division, National Cancer Center Hospital, Tokyo.

JT JAPANESE JOURNAL OF CLINICAL ONCOLOGY.

AB The risk of a person developing a second primary cancer was evaluated in 1,215 patients with laryngeal cancer at the National Cancer Center Hospital. Overall, 92 (8.2%) of the male patients and 5 (5.7%) of the female patients developed a second cancer, compared with 83.0 and 3.7, respectively, expected on the basis of general population rates, resulting observed: expected values (O/E) to be 1.1 and 1.3. The numbers of second cancers of the lung (O/E = 1.9), oropharynx (O/E = 8.8) and esophagus (O/E = 2.8) were significantly in excess of those expected, while the number of second stomach cancers (O/E = 0.5) was far below expectation. Synchronous second cancers were significantly higher than expected (O/E = 4.6). Smoking, especially heavy smoking, was related to second lung cancers, but alcohol drinking featured less. Histories of benign respiratory tract and digestive organ diseases were related to second oropharyngeal cancers. Alcohol

drinking was related to second stomach cancers. *Radiation* therapy for the initial laryngeal cancer was related to second oropharyngeal cancers, while hazardous occupations related to noxious agents for respiratory systems featured more prevalently in cases of second lung cancer. Further analytical studies should clarify the roles of smoking, drinking, occupation and various forms of therapy on the risk of developing a different second cancer following laryngeal cancer. Author-abstract.

124

AU Henriksen-T. Dahlback-A. Larsen-S-H. Moan-J.
IN Institute of Physics, University of Oslo, Norway.
JT PHOTOCHEMISTRY AND PHOTOBIOLOGY.
AB The effect of changes in the ozone layer on the incidence of skin cancer was explored using data for Norway. Attempts were made to arrive at a relationship between the "ennd suggests a less fatalistic attitude of the medical community towards localized pancreatic carcinoma is appropriate. Author-abstract.

126

AU Spitz-M-R. Sider-J-G. Newell-G-R.
IN Department of Cancer Prevention and Control, University of Texas M.D. Anderson Cancer Center, Houston 77030.
JT HEAD AND NECK.
AB There are epidemiologic similarities between salivary and skin neoplasms that could be attributed to exposure to ultraviolet *radiation.* To explore further the etiologic parallels between these two types of cancer, we studied the multiple primary association between salivary gland cancer with that of other cancers known to be induced by ultraviolet light exposure, using data from the SEER program for 1973-1984. Because nonmelanoma skin cancers other than cancers of the lip are not routinely reported to the SEER *registries,* we specifically evaluated the associations with melanoma and lip cancers. Expected numbers of subsequent primaries (melanoma and lip) for the 904 white men and 784 white women with an initial salivary gland cancer were computed from incidence rates using the Connecticut Tumor *Registry.* There were significantly increased risks for subsequent lip cancer among men (RR = 8.7) and for melanoma among women (RR = 7.1). Among men there was also a significant association between an initial lip cancer and risk of subsequent salivary gland cancer (RR = 12.7). These observations, together with reported increases in incidence of these tumors, suggest a common etiology, which could partly be explained because of exposure to ultraviolet *radiation.* Author-abstract.

127

AU Inoue-T. Masaoka-T. Shibata-H.
IN Department of *Radiation* Therapy, Center for Adult Diseases, Osaka, Japan.

JT STRAHLENTHERAPIE UND ONKOLOGIE.

AB Interstitial pneumonitis is one of the major

Even a casual analysis of the existing data related aetiology. Even a casual analysis of the existing data belies the oversimplicity of the WHO model used in developing countries to assign lower priority to cancer prevention and control than to communicable diseases.

Exposure data to environmental inducers of cancer, *radiations,* chemicals and other stresses is urgently needed. Prevention strategy should be more and more on a scientific base for an early detection and risk estimates of chemical exposures. Sustained environmental monitoring for inducers and cofactors are required. The Factory Act must make provision for appropriate health surveillance of workers over a long period. Author-abstract. 16 Refs.

135

AU De-Fusco-P-A. Gaffey-T-A. Malkasian-G-D Jr. Long-H-J. Cha-S-S.

IN Department of Oncology, Mayo Clinic, Rochester, Minnesota 55905.

JT GYNECOLOGIC ONCOLOGY.

AB Uterine sarcomas are uncommon malignancies. We retrospectively examined 24 cases of "high grade" endometrial stromal sarcomas (ESS). The histologic diagnosis was made if there was a high grade sarcoma with a high mitotic index and nuclear anaplasia. Heterologous elements could be present, if focal only. Leiomyosarcomas, mixed mesodermal sarcomas, and carcinosarcomas were excluded. Mitotic index was expressed as the number of mitoses per 10 high-power fields in active areas. Tumor grade was based on nuclear anaplasia. ESS were 5.7% of all uterine sarcomas. Median age was 58.2 years; median duration of symptoms was 67.5 days. Abnormal bleeding was the presenting complaint in 91.7%. Uterine enlargement was seen in 33%; protrusion through the cervical os was seen in 9 cases. Total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed in 95.8%. Twenty patients had myometrial involvement; 5 patients had serosal spread and extrauterine disease; residual disease was seen in 3 patients. Adjuvant *radiation* was not beneficial. Ten patients had recurrences: 60% in the pelvis, 50% each with subcomponent of abdominal or distant disease. Overall survival was 3.4 years and was significantly associated with extent of disease, size of the primary tumor, and grade. Author-abstract.

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AU Cooper-J-S. Pajak-T-F. Rubin-P. Tupchong-L. Brady-L-W.

Leibel-S-A. Laramore-G-E. Marcial-V-A. Davis-L-W. Cox-J-D. et al.

IN NYU Medical Center, NY 10016.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

AB The development of second malignant tumors (SMTs), in patients who have had their first tumor treated successfully, represents a serious limitation of current therapeutic strategies for head and neck cancers. To improve our understanding of the current magnitude of the problem and the various factors that might influence its

importance, we reviewed the *Radiation* Therapy Oncology Group's (RTOG) prospectively collected *registry* of all head and neck patients seen in participating member institutions between February 1977 and April 1980. A total of 928 patients were identified who had squamous cell carcinomas of the head and neck region, no prior or coincident history of another malignant tumor, and whose planned treatment consisted of *radiation* therapy only. A total of 110 second, independent, malignant tumors occurred in these patients. Overall, the estimated risk of developing a second tumor within 3 years of radiotherapy was 10%, within 5 years 15%, and within 8 years 23%. Minor differences in frequency were observed for different primary

- s. Thus, an ozone depletion of 1% will result in an increase in the incidence of BCCs by 1.6-2.1% and of SCCs by 1.3-1.7%. There were no significant differences between the values for men and women. Neither was there any significant difference between Ab values found for skin commonly exposed to sunlight (face) and for skin sites normally covered by clothes and therefore receiving much lower exposures, in spite of the fact that the tumor density per unit skin area was a factor of 20 or more larger at the former sites. This observation, as well as the curves relating cancer incidence with annual exposure to carcinogenic sunlight, supports a power law relationship between cancer incidence and annual sun exposure. Sunlight appears to be the main cause of BCCs and SCCs even at the high latitudes of Northern Norway. All over, BCCs were found to be about 6 times more frequent than SCCs. The ratio of the incidence of BCCs to that of SCCs seemed to be independent of the latitude. Finally, BCCs were found to be equally frequent among men and women, while SCCs were found to be about twice as frequent among men as among women. Author-abstract.

138

AU Bowlit-C. Tiplady-P.

IN Department of *Radiation* Biology, St Bartholomew's Hospital Medical College, London.

JT BMJ.

139

AU Ewings-P-D. Bowie-C. Phillips-M-J. Johnson-S-A.

IN Department of Public Health, Somerset Health Authority, Taunton.

JT BMJ.

- AB The incidence of leukaemia and non-Hodgkin's lymphoma in young people (aged under 25) living in a predefined area around the nuclear power station at Hinkley Point, Somerset, was examined for the period 1959-86 by using cancer *registry* data. During the period since Hinkley Point began operations--that is, 1964-86--there were 19 cases in that was surgery, *radiation* therapy, or surgery plus *radiation* therapy. Author-abstract.

146

AU Jubelirer-S-J.

JT WEST VIRGINIA MEDICAL JOURNAL.

AB Small-cell carcinoma of the lung has been shown to be quite responsive to chemotherapy. Unfortunately, these responses are often short in duration, and long-term, disease-free survival is infrequent. This review of tumor *registry* records of all patients with small-cell carcinoma of the lung treated at Charleston Area Medical Center (CAMC) from 1962 to 1983 showed that 21 of 500 (four per cent) survived 30 months or longer. Eighteen patients had limited-extent disease. Although the majority of patients received chemotherapy alone or chemotherapy and *radiation,* there were survivors in all treatment groups (i.e. surgery alone or radiotherapy alone). Six of the 21 long-term survivors eventually had relapses occurring as late as 88 months after diagnosis. The overall poor survival of patients with small-cell lung cancer suggests a need for the development of novel initial approaches to therapy. Author-abstract.

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AU Samet-J-M.

IN University of New Mexico, New Mexico Tumor *Registry,* Albuquerque 87131.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

AB Radon, an inert gas released during the decay of uranium-238, is ubiquitous in indoor and outdoor air and contaminates many underground mines. Extensive epidemiologic evidence from studies of underground miners and complementary animal data have documented that radon causes lung cancer in smokers and nonsmokers. Radon must also be considered a potentially important cause of lung cancer for the general population, which is exposed through contamination of indoor air by radon from soil, water, and building materials. This review describes radon's sources, levels in U.S. homes, dosimetry, the epidemiologic evidence from studies of miners and the general population, and the principal, recent risk assessments. Author-abstract. 91 Refs.

148

AU Pfeiffer-P. Mogensen-H. Amtrup-F. Honore-E.

IN Department of Gynecology and Obstetrics, Fredericia Sygehus, Denmark.

JT ACTA ONCOLOGICA.

AB Fifty-two patients with carcinoma of the fallopian tube diagnosed and treated during a 5-year period in Denmark were reviewed. The median age of the patients was 60 years. No patients had a preoperative diagnosis. History and clinical findings were similar to previously reported series. Treatment consisted of hysterectomy and bilateral salpingo-oophorectomy, often succeeded by postoperative whole pelvic irradiation. Five-year survival was 37.4%, depending on stage. In stage I+II the survival rates were similar regardless of whether postoperative *radiation* therapy had been given or not. Little is known about the patterns of spread. The relatively bad prognosis for stages I and II after radical surgery indicates early undetected

metastases and the need for more aggressive adjunctive therapy.
Author-abstract.

149

JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.

AB The teratological impact of radiological contamination from the Chernobyl accident was evaluated in relation to central nervous system and eye defects in 18 regional *registries* in nine countries of Western Europe. Six classes of anomaly were analysed: neural tube defects, arhinencephaly, microcephaly and brain reduction, hydrocephaly, anophthalmos and microphthalmos, and congenital cataract. Conceptions up to 31 August 1986 were grouped into two exposure cohorts. In cohort A the sensitive period of fetal development to *radiation* fell wholly or partly between 1 May and 30 expected). The results of the study do not show a general increase in the frequency of malformations in the countries of Western Europe. The evidence presented indicates that, in the regions studied, termination of pregnancies or invasive prenatal diagnostic examinations were not justified for women exposed during pregnancy.
Author-abstract.

150

AU Mulvihill-J-J. Byrne-J.

JT SEMINARS IN ONCOLOGY NURSING.

AB Each year, tens of thousands of persons are diagnosed with cancer, are treated, and become survivors while still in their reproductive years. Their concerns about possible germ-cell damage as a result of life-saving *radiation,* chemotherapy, or both are plausible, based on evidence from animal models and from somatic cell mutations in human beings. A 40-year follow-up of survivors of the atomic bomb blasts in Japan showed no detectable genetic damage and suggested that the human gonad is more resistant to radiogenic mutation than the laboratory mouse. The pooled results of studying 12 series of offspring of cancer patients showed a 4% rate of major birth defects (similar to that of the general population) and an excess of fetal loss and low birth weight in offspring of women who received abdominal radiotherapy. According to preliminary evaluation of a new National Cancer Institute collaboration with five cancer *registries,* offspring of survivors of childhood cancers had no more birth defects than expected and, beyond an increase in probably familial cancers in children younger than 5, no overall increase in childhood cancer. Ideally, genetic and reproductive counseling should take place as soon as cancer is diagnosed (before therapy starts) and again when pregnancy is contemplated. Author-abstract. 28 Refs.

transmission of light of different wavelengths might serve as an important discriminating variable. If solar UV *radiation* is implicated in the development of melanoma, then altitude should emerge as a significant factor in epidemiologic studies. If visible

or IR *radiation* is the active agent, then differences on the basis of altitude should be small or negligible. Intrinsic solar variations that follow the annual sunspot number appear inadequate in either the UV or the visible band to account directly for the apparent 11-year modulation of melanoma incidence found in some *registries.* Secondary atmospheric effects brought about by the action of solar UV changes on the ozone layer may be adequate to explain a weak 11-year modulation in melanoma incidence, although continuous measurements of UV-B flux made at sites in the United States through a full solar cycle have shown no such effect. Nor do these early measurements reveal the long-term increase in UV-B intensity expected from the destruction of stratospheric ozone by industrial pollutants over the last 10 years. Author-abstract.

156

AU Curtis-R-E. Boice-J-D Jr. Stovall-M. Flannery-J-T. Moloney-W-C.
IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda,
MD 20892.

JT JOURNAL OF CLINICAL ONCOLOGY.

AB To evaluate further the relationship between high-dose radiotherapy and leukemia incidence, a nested case-control study was conducted in a cohort of 22,753 women who were 18-month survivors of invasive breast cancer diagnosed from 1935 to 1972. Women treated for breast cancer after 1973 were excluded to minimize the possible confounding influence of treatment with chemotherapeutic agents. The cases had histologically confirmed leukemia reported to the Connecticut Tumor *Registry* (CTR) between 1935 and 1984. A total of 48 cases of leukemia following breast cancer were included in the study. Two controls were individually matched to each leukemia case on the basis of age, calendar year when diagnosed with breast cancer, and survival time. Leukemia diagnoses were verified by one hematologist. *Radiation* dose to active bone marrow was estimated by medical physicists on the basis of the original radiotherapy records of study subjects. Local *radiation* doses to each of the 16 bone marrow components for each patient were reconstructed; the dose averaged over the entire body was 530 rad (5.3 Gy). Based on this dosage and assuming a linear relationship between dose and affect, a relative risk (RR) in excess of 10 would have been expected. However, there was little evidence that radiotherapy increased the overall risk of leukemia (RR = 1.16; 90% confidence interval `CI:, 0.6 to 2.1). The risk of chronic lymphocytic leukemia, one of the few malignancies without evidence for an association with ionizing *radiation,* was not significantly increased (RR = 1.8; n = 10); nor was the risk for all other forms of leukemia (RR = 1.0; n = 38). There was no indication that risk varied over categories of *radiation* dose. These data exclude an association between leukemia and radiotherapy for breast cancer of 2.2-fold with 90% confidence, and provide further evidence that cell death predominates over cell transformation when high *radiation* doses are delivered to limited volumes of tissue. Author-abstract.

157

AU Nasca-P-C. Baptiste-M-S. MacCubbin-P-A. Metzger-B-B. Carlton-K. Greenwald-P. Armbrustmacher-V-W. Earle-K-M. Waldman-J.
IN Division of Epidemiology, New York State Department of Health, Albany
tion* based on industrial codes. Odds ratios ranged from 1.71 to 2.15. This association was not observed when paternal occupational titles were used to define exposure (range of odds ratios, 1.01-1.10). Maternal exposures to ionizing *radiation* were not related to risk regardless of the classification scheme used. Author-abstract.

158

AU Boice-J-D Jr. Engholm-G. Kleinerman-R-A. Blettner-M. Stovall-M. Lisco-H. Moloney-W-C. Austin-D-F. Bosch-A. Cookfair-D-L. et al.
IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda, Maryland 20892.
JT *RADIATION* RESEARCH.
AB The risk of cancer associated with a broad range of organ doses was estimated in an international study of women with cervical cancer. Among 150,000 patients reported to one of 19 population-based cancer *registries* or treated in any of 20 oncology clinics, 4188 women with second cancers and 6880 matched controls were selected for detailed study. *Radiation* doses for selected organs were reconstructed for each patient on the basis of her original radiotherapy records. Very high doses, on the order of several hundred gray, were found to increase the risk of cancers of the bladder (relative risk (RR) = 4.0; rectum (RR = 1.8), vagina (RR = 2.7), and possibly bone (RR = 1.3), uterine corpus (RR = 1.3), cecum (RR = 1.5), and non-Hodgkin's lymphoma (RR = 2.5). For all female genital cancers taken together, a sharp dose-response gradient was observed, reaching fivefold for doses more than 150 Gy. Several gray increased the risk of stomach cancer (RR = 2.1) and leukemia (RR = 2.0). Although cancer of the pancreas was elevated, there was no evidence of a dose-dependent risk. Cancer of the kidney was significantly increased among 15-year
Horn-P-L. Thompson-W-D.
IN Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut 06510.
JT CANCER.
AB A case-control study was conducted to assess the risk factors associated with the development of a contralateral primary breast cancer among women who had had a first primary breast cancer. Hospital records were reviewed for 292 women with an incident contralateral breast cancer, diagnosed in one of eight hospitals between July 1, 1975 and December 31, 1983, and for a comparison group of 264 surviving unilateral breast cancer patients, previously diagnosed in the same hospitals. All subjects were identified through the records of the Connecticut Tumor *Registry.* Having an initial tumor containing lobular carcinoma was associated with an almost twofold increased risk of developing a contralateral cancer

(aOR = 1.8; 95% CI: 1.0-3.5). Among those for whom a progesterone receptor assay was available, a positive assay was associated with an increased risk of a contralateral primary (aOR = 3.2; 95% CI: 1.0-9.5). AB blood type was also associated with an elevated risk, but this elevation was not statistically significant (aOR = 2.3; 95% CI: 0.7-7.7). Having received *radiation* treatment was not significantly associated with the risk of a contralateral primary (aOR = 0.9; 95% CI: 0.6-1.4), whereas chemotherapy treatment was associated with a significantly lowered risk (aOR = 0.3; 95% CI: 0.1-0.7). The association with chemotherapy appeared to be modified by body build (ROR = 1.5; 95% CI: 1.0-2.3 for a 2.5-unit differential in Quetelet's index). Author-abstract.

164

AU Severson-R-K. Stevens-R-G. Kaune-W-T. Thomas-D-B. Heuser-L. Davis-S. Sever-L-E.

IN Japan-Hawaii Cancer Study, Kuakini Medical Center, Honolulu 96817.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

AB Recent research has suggested that nonionizing *radiation* in the form of power-frequency magnetic fields may play some role in carcinogenesis in general and in acute nonlymphocytic leukemia in particular. Much of the epidemiologic evidence is preliminary in nature and the methods of previous studies have been criticized. In order to further evaluate this hypothesis, a population-based case-control study of adult acute nonlymphocytic leukemia and residential exposure to power-frequency magnetic fields was carried out in western Washington state. Analyses were based on 114 cases who were newly diagnosed from 1981 to 1984 and identified from a population-based cancer *registry,* and 133 controls who were chosen from the study area by random digit dialing. Magnetic field exposure was estimated from external electrical wiring configurations within 140 ft (42.7 m) of each subject's residence. In addition, magnetic fields were measured inside the subject's residence at the time of interview. Neither the directly measured magnetic fields nor the surrogate values based on the wiring configurations were associated with acute nonlymphocytic leukemia. Author-abstract.

165

AU Olsson-H. Ranstam-J.

IN Department of Oncology, University Hospital, Lund, Sweden.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

AB On the basis of information obtained from a population-based cancer *registry* in Sweden, male patients with breast cancer (n = 95) were found to have experienced significantly more brain concussions and skull fractures than male patients with lung cancer (n = 383) or malignant lymphoma (n = 69). Other risk factors significantly associated with breast cancer among men were drug treatment associated with prolactin elevations, *radiation* treatment, famil frequency of leukaemia and solid tumors was determined from age- and sex-corrected data from the South Thames Cancer *Registry.* Thirty-seven

malignancies were recorded in 36 patients including 9 leukaemias, 10 lung cancers, 6 skin cancers and 2 non-Hodgkin's lymphoma, all of which were observed in significant excess. When all remaining sites are combined, there was a slight excess but no one site is individually significant. Author-abstract. 89 Refs.

167

AU Meadows-A-T.

IN Children's Hospital of Philadelphia, PA 19104.

JT BULLETIN DU CANCER.

AB The Late Effects Study Group (LESG) has collected 368 cases of second malignant neoplasms (SMN) in patients having been previously treated for a first malignancy during childhood. The most frequent first neoplasm is retinoblastoma, followed by Hodgkin's disease. The second neoplasms are essentially sarcomas mostly associated with *radiation* therapy. Leukemias are also frequent, apparently essentially induced by alkylating agents. The incidence of SMN depends on the primary and on the treatment given, thus it varies according to the studied cohorts. In the most recently analysed material of the LESG, the 20-year incidence was 8%. Children treated for a first neoplasm have an elevated risk of developing a SMN. Genetic predisposition may increase that risk. Author-abstract.

168

AU Ellerbroek-N-A. Tran-L-M. Selch-M-T. Taylor-J-M. Parker-R-G.

IN Department of *Radiation* Oncology, UCLA Center for the Health Sciences.

JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.

AB The records of all patients treated at UCLA with stage I through stage III testicular seminoma, diagnosed in 1956-1983, were reviewed. Histologic subtype, therapeutic protocol, survival, and the incidence of subsequent primary malignancies are examined in this presentation.

the regions served by these *registries.* The incidence of ocular melanoma among persons born in the southern United States was nearly the same as that among persons born in the north, after adjustment for age, sex, and residence at diagnosis (Incidence Ratio = 1.1, 95% C.I. 0.8, 1.5). Comparisons of the risk of ocular melanoma between persons born in States with high and low levels of solar *radiation* yielded similar results, and a trend with increasing solar *radiation* was observed only among females. These findings do not support the hypothesis that exposure to the sun early in life is a major risk factor for ocular melanoma. Author-abstract.

175

AU Storm-H-H.

IN Danish Cancer *Registry,* Institute of Cancer Epidemiology, Copenhagen, Denmark.

JT CANCER.

AB Using data from the population-based Danish Cancer *Registry,* the

relative risk (RR) of second primary cancer was assessed among 24,970 women with invasive cervical cancer (1943-1982) and 19,470 women with carcinoma in situ of the cervix. The analysis was stratified according to treatment with (+) and without (-) *radiation.* For all second primaries combined, a RR+ = 1.1 (95% confidence interval (CI) = 1.06-1.18) and a RR- = 1.3 (95% CI = 1.13-1.40) was observed after invasive cervical cancers and a RR+ = 3.5 (95% CI = 1.4-7.2) and RR- = 1.1 (95% CI = 0.7-1.6) following in situ cancer. The small overall excess of second primary cancer is accounted for by an increase of some cancers such as lung, bladder, and a concurrent decrease in others such as breast. Although not statistically different from nonirradiated, the RR increased with time since treatment among irradiated invasive cervical cancer patients in organs close to and at intermediate distance from the cervix, reaching a maximum after 30 or more years of follow-up (RR = 1.9; 95% CI = 1.4-2.5). Altogether, for these sites an excess of 64 cases per 10,000 women per year were attributable to *radiation* among survivors of 30+ years. The highest risks among long-term survivors were observed for the following: other genital organs (RR = 5.8; 95% CI = 1.8-13.0) bladder (RR = 5.5; 95% CI = 2.8-9.5), connective tissue (RR = 3.3; 95% CI = 0.4-12.0), stomach (RR = 2.5; 95% CI = 1.1-4.7) and rectum (RR = 2.4; 95% CI = 1.1-4.6). A significant deficit of risk for breast cancer (RR = 0.7, 95% CI = 0.6-0.8) was observed for 10+ years, may be attributable to the effect of ovarian ablation by radiotherapy. It is speculated that the same effect also may explain the observed deficits of brain tumors (RR = 0.6; 95% CI = 0.4-1.0) and skin melanomas (RR = 0.6; 95% CI = 0.3-1.0). It is concluded that cancers attributable to *radiation,* apart from acute nonlymphocytic leukemias, tend to appear late (10 or more years after radiotherapy), and that the risk remains elevated for more than 30 years. Author-abstract.

176

AU Hultborn-R. Friberg-S. Hultborn-K-A. Peterson-L-E. Ragnhult-I.
IN Department of Oncology, University of Gothenburg, Sweden.
JT ACTA ONCOLOGICA.

AB The complete material of male breast cancer, 166 cases, reported to the Swedish Cancer *Registry* in 1958-1967 is described and analyzed concerning different prognostic parameters, treatment methods and survival. Age at diagnosis, axillary lymph node status and tumour size all had significant prognostic importance in a multivariate analysis with axillary lymph node status as the strongest factor. Histologic malignancy grade was strongly correlated to axillary lymph node status and tumour size and thus to prognosis, but did not seem to be an independent prognostic factor. The primary treatment methods were quite heterogeneous and were obviously influenced by both age of the patient and clinical tumour status. No significant correlation was found between type of primary treatment and survival, but due to the retrospective nature of the study no definite conclusion could be drawn. Radical mastectomy seemed, however, to

give fewer loco-regional recurrences than both modified radical mastectomy and simple mastectomy. Very few patients in the present series had received *radiation* therapy in adequate doses. The material gave some indications that orchiectomy might prolong survival in patients with recurrent or generalized disease. Author-abstract. 72 Refs.

177

AU Boice-J-D Jr. Blettner-M. Kleinerman-R-A. Stovall-M. Moloney-W-C. Engholm-G. Austin-D-F. Bosch-A. Cookfair-D-L. Krementz-E-T. et al.

IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda, MD 20892.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

AB To quantify the risk of *radiation-induced* leukemia and provide further information on the nature of the relationship between dose and response, a case-control study was undertaken in a cohort of over 150,000 women with invasive cancer of the uterine cervix. The cases either were reported to one of 17 population-based cancer *registries* or were treated in any of 16 oncologic clinics in Canada, Europe, and the United States. Four controls were individually matched to each of 195 cases of leukemia on the basis of age and calendar year when diagnosed with cervical cancer and survival time. Leukemia diagnoses were verified by one hematologist. *Radiation* dose to active bone marrow was estimated by medical physicists on the basis of the original radiotherapy records of study subjects. The risk of chronic lymphocytic leukemia, one of the few malignancies without evidence for an association with ionizing *radiation,* was not increased (relative risk (RR) = 1.03; n = 52). However, for all other forms of leukemia taken together (n = 143), a twofold risk was evident (RR = 2.0; 90% confidence interval = 1.0-4.2). Risk increased with increasing *radiation* dose until average doses of about 400 rad (4 Gy) were reached and then decreased at higher doses. This pattern is consistent with experimental data for which the down-turn in risk at high doses has been interpreted as due to killing of potentially leukemic cells. The dose-response information was modeled with various RR functions, accounting for the nonhomogeneous distribution of *radiation* dose during radiotherapy. The local *radiation* doses to each of 14 bone marrow compartments for each patient were incorporated in the models, and the corresponding risks were summed. A good fit to the observed data was obtained with a linear-exponential function, which included a positive linear induction term and a negative exponential term. The estimate of the excess RR per rad was 0.9%, and the estimated RR at 100 rad (1 Gy) was 1.7. The model proposed in this study of risk proportional to mass exposed and of risk to an individual given by the sum of incremental risks to anatomic sites appears to be applicable to a wide range of dose distributions. Furthermore, the pattern of leukemia incidence associated with different levels of *radiation* dose is consistent with a model postulating increasing risk with

increasing exposure, modified at high doses by increased frequency of cell death, which reduces risk. Author-abstract.

178

AU Murakami-R. Hiyama-T. Hanai-A. Fujimoto-I.

IN Department of Epidemiology and Mass Examination for Stomach Cancer, Center for Adult Diseases, Osaka, Japan.

JT JAPANESE JOURNAL OF CLINICAL ONCOLOGY.

AB Using the data accumulated in the Osaka Cancer *Registry,* a cohort study was conducted on the occurrence of second primary cancers following the first breast cancer in females. Of the 9,503 breast cancer patients newly diagnosed in the period 1965-1982 who were followed up until the end of 1983 (average follow-up period, 5.7 years), 344 developed second cancers, whereas the expected number had been 211 (relative risk (RR) = 1.6; 95% confidence interval (CI) = 1.5-1.8). The increased risk was observed throughout the observation period, and was higher in patients of less than 45 years of age at diagnosis than in older women. Significant excess risks were found for second cancers of the opposite breast (RR = 4.2; 95% CI = 3.4-5.2), buccal cavity (RR = 3.6; 95% CI = 1.6-7.2), stomach (RR = 1.4; 95% CI = 1.2-1.8), colon (RR = 1.8; 95% CI = 1.1-2.1) and thyroid gland (RR = 3.2; 95% CI = 1.5-6.1). The effects of chemo- and radiotherapy administered for initial breast cancer on the increased risk of the above mentioned second cancers were also examined. These therapeutic measures were found not likely to be related to the excess risks for cancers of the buccal cavity, stomach and colon. For second cancer of the opposite breast, however, both chemotherapy and radiotherapy remained as possible risk factors. The effect of *radiation* was proposed as being a likely explanation for the excess risk of second thyroid cancer. Author-abstract.

179

AU Lushbaugh-C-C. Fry-S-A. Ricks-R-C. Hubner-K-F. Burr-W-W.

JT BRITISH JOURNAL OF RADIOLOGY. SUPPLEMENT.

AB 25 Refs.

180

AU Lushbaugh-C-C. Fry-S-A. Ricks-R-C.

IN *Radiation* Emergency Assistance Center/Training Site, Oak Ridge Associated Universities, Tennessee.

JT BRITISH JOURNAL OF RADIOLOGY.

181

AU Horn-P-L. Thompson-W-D. Schwartz-S-M.

IN Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT 06510.

JT JOURNAL OF CHRONIC DISEASES.

AB To examine further the epidemiology of contralateral primary breast cancer, a case-control analysis, utilizing information available from the Connecticut Tumor *Registry,* was conducted. Recent cases of

second primary breast cancer were compared to control women who had survived a first breast cancer but had not developed a second. Three hundred and thirty eight incident cases of contralateral breast cancer diagnosed between 1979 and 1982 were identified and compared with an equal number of randomly selected controls and 336 controls frequency matched to the cases on the basis of age at initial cancer diagnosis and the calendar time elapsing since that diagnosis. Risk of

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 ENTER ANSWER NUMBER-->6
 ENTER TI (TITLE ONLY), S (SHORT FORMAT), M (MEDIUM FORMAT), L (LONG FORMAT)
 TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1
 ENTER DOCUMENT NUMBERS--> all
 1
 AN 93205857. 93064.
 AU Sofer-T. Goldsmith-J-R. Nusselder-I. Katz-L.
 IN Epidemiology Unit, Faculty of Health Sciences, Ben-Gurion University
 of the Negev, Beer Sheva, Israel.
 TI Geographical and temporal trends of childhood leukemia in relation to
 the nuclear plant in the Negev, Israel, 1960-1985.
 SO Public-Health-Rev. 1991-92. 19(1-4). P 191-8.
 JT PUBLIC HEALTH REVIEWS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Gardner et al. (Br Med J 1990; 300: 423-429) reported a high
 relative risk for childhood leukemia among children, aged 0-24 years
 at time of diagnosis, born to fathers employed at the Sellafield
 nuclear plant in the U.K. As a result we looked for spatial and
 temporal trends of childhood and young adult leukemia in the Negev,
 where a nuclear plant has been in operation since 1960. We divided
 the Negev into an Eastern part where plant employees are likely to
 live, and a Western part where this is quite unlikely. Reported
 leukemia cases were provided by the Israel Cancer *Registry* for the
 age group 0-24, and for the period 1960-1985. We checked this file
 against data obtained from the hospitals in the area. We added 6
 more cases in the Eastern Negev, none in the Western Negev, and none
 of the reported cases was discarded. There was a total of 192 cases,
 of which 52% were acute lymphatic leukemia. Jewish and Bedouin
 children were studied separately. Among Jewish children the average
 annual incidence rate for the Eastern Negev was 2.76/100,000, the
 Western Negev 3.51. Over time the leukemia rates were consistently
 higher in the Western Negev among children aged 0-9 years, which
 holds especially for acute lymphatic leukemia. There was a sudden
 increase among girls born during the period 1970-1979 in the northern
 part of the Western Negev, which was not noticed among boys. No
 excess cases were found in the small towns around the plant.
 Author-abstract.
 MJ *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-REACTORS.
 MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. FEMALE. HUMAN.
 INFANT. INFANT-NEWBORN. ISRAEL: epidemiology (ep). MALE.
 TIME-FACTORS.
 YR 1991.
 IS 0301-0422. Q9E.
 CP ISRAEL (Z1.252.245.509, Z1.630.540).
 IM 9306.
 ND ENTRY DATE: 930421.

AN 93202588. 93064.
 AU Ogilvy-Stuart-A-L. Shalet-S-M.
 IN Department of Endocrinology, Christie Hospital and Holt Radium
 Institute, Manchester, UK.
 TI Tumour occurrence and recurrence.
 SO Horm-Res. 1992. 38 Suppl 1. P 50-5.
 JT HORMONE RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB There is growing concern about the oncogenic potential of growth
 hormone (GH) used therapeutically. In rat experiments, a variety of
 malignant tumours have been induced following administration of
 supraphysiological doses of GH, whilst in other studies in
 hypophysectomized animals a lower than normal incidence of
 carcinogen-induced neoplasms was reported. In acromegaly, in which
 there is a pathologically sustained high GH level, there is a
 significantly increased incidence of cancer in general and
 specifically of colonic neoplasia. To determine whether the use of
 GH in the treatment of *radiation-induced* GH deficiency causes tumour
 recurrence, a comparison was made of tumour recurrence rates between
 47 children treated with GH for *radiation-induced* GH deficiency after
 treatment for a brain tumour and a control population from the North
 West Children's Cancer *Registry* who did not receive GH (n = 160).
 All cases of acute lymphoblastic leukaemia (ALL), including those
 that were (n = 15) and were not (n = 146) treated with GH were
 reviewed. The computerized tomography (CT) scans in the children
 with brain tumours were reviewed at the time of GH commencement and
 subsequently. There were 5 brain tumour recurrences after GH
 therapy: 1 astrocytoma, 2 ependymomas and 2 medulloblastomas.
 Adjusting for variables other than GH which might affect tumour
 recurrence, the estimated relative risk of tumour recurrence was 0.82
 (95% confidence interval: 0.28-2.37). In each tumour category there
 was no association between the use of GH and subsequent tumour
 recurrence.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract.
 MJ NEOPLASM-RECURRENCE-LOCAL: etiology (et). NEOPLASMS: etiology (et).
 SOMATOTROPIN: adverse-effects (ae).
 MN ANIMAL. BRAIN-NEOPLASMS: drug-therapy (dt), radiotherapy (rt).
 CHILD. CHILD-PRESCHOOL. FEMALE. GROWTH-DISORDERS: drug-therapy
 (dt), etiology (et). HUMAN. LEUKEMIA-LYMPHOCYTIC-ACUTE: etiology
 (et). MALE. *RADIATION-INJURIES:* drug-therapy (dt), etiology (et).
 SOMATOTROPIN: deficiency (df), therapeutic-use (tu).
 RN 9002-72-6 -- Somatotropin.
 SB Priority Journals (M).
 YR 1992.
 IS 0301-0163. GBI.
 CP SWITZERLAND (Z1.542.883).
 IM 9306.
 ND ENTRY DATE: 930419.

AN 93198839. 93063.
AU Austin-J-P. Convery-K.
IN Department of *Radiation* Medicine, Massachusetts General Hospital,
Boston.
TI Age-race interaction in prostatic adenocarcinoma treated with
external beam irradiation.
SO Am-J-Clin-Oncol. 1993 Apr. 16(2). P 140-5.
JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The most important predictors of long-term survival in patients with
adenocarcinoma of the prostate are histological grade and stage of
disease. However, the role of other epidemiological factors,
particularly age and race, remains controversial. There is a school
of thought that black patients and younger patients have a
biologically more aggressive disease. We analyzed the survival of
914 patients (867 whites and 47 blacks) with localized adenocarcinoma
of the prostate treated with external beam irradiation from the
Connecticut SEER Tumor *Registry* data base. Patients were treated
from 1973-1987, and those with Stages A1, A2 and D2 were excluded.
Patients ≤ 60 years of age had a 5-year survival rate of 72%
compared to 61% for those > 60 years of age ($p = 0.06$). When
stratified by race, white patients had a 63% 5-year survival rate
versus 47% in black patients ($p = 0.02$). When analyzed by race and
age, and age-race interaction was noted. Although younger whites
fared better than older whites, 77% versus 61% survival at 5 years ($p = 0.02$),
younger blacks fared worse than older blacks, 31% versus 52%
survival at 5 years ($p = 0.21$). Blacks, on average, presented at an
earlier age than whites, 65 years versus 69 years ($p = 0.001$). Both
races had similar stage and similar grade of disease. In older
patients, both races presented with similar stage and grade of
disease and had similar survival. However, in the younger age group,
black patients presented with similar grade, but higher stage disease
than whites. This may explain the worse survival in young blacks
compared to young whites, 31% versus 77% at 5 years ($p = 0.007$).
Multivariate analysis revealed that, even controlling for stage and
grade, blacks still fared worse than whites. Increased age was
associated with decreased survival in whites but increased survival
in blacks. Author-abstract.
MJ ADENOCARCINOMA: ethnology (eh), mortality (mo). PROSTATIC-NEOPLASMS:
ethnology (eh),mortality (mo).
MN ADENOCARCINOMA: radiotherapy (rt). AGE-FACTORS. AGED.
CAUCASOID-RACE. HUMAN. MALE. MIDDLE-AGE. NEGROID-RACE.
PROGNOSIS. PROSTATIC-NEOPLASMS: radiotherapy (rt). *REGISTRIES.*
SURVIVAL-ANALYSIS.
SB Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0277-3732. 3EZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.

ND ENTRY DATE: 930414.

4

AN 93194528. 93063.

AU Schaart-F-M. Garbe-C. Orfanos-C-E.

IN Universitäts-Hautklinik und Poliklinik, Klinikum Steglitz, Freien Universität Berlin.

TI `Disappearance of the ozone layer and skin cancer: attempt at risk assessment:.

TT Ozonabnahme und Hautkrebs: Versuch einer Risikoabschätzung.

SO Hautarzt. 1993 Feb. 44(2). P 63-8.

JT HAUTARZT.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG German (GE).

AB The increased incidence of skin cancer recorded worldwide is alarming. The incidence of malignant melanoma has doubled in Germany every 10-15 years during recent decades, for example, as documented in the population-based cancer *registry* of the Saarland. In 1989, the incidence was 8.3 cases/100,000 inhabitants a year equally for both sexes. Non-melanoma skin cancer (basal cell and squamous cell carcinomas) showed a similar dramatic increase like melanoma and ranged in second place in the Saarland Cancer *Registry* in 1989, exceeded in men only by lung cancers and in women only by breast cancer. Their incidence was 93.4/100,000 in men and 55.8/100,000 in women. Epidemiological studies worldwide revealed a correlation between the increase of skin cancer incidence and UV exposure in white populations, and Caucasians living in regions near the equator are predominantly affected by this increase. Recently, incidence values for non-melanoma skin cancer in the USA were reported to be 232/100,000, whereas, for Queensland/Australia even numbers as high as 2398/100,000 (males) and 1908/100,000 (females) have been published. So far, the increase in skin cancer incidence has been related to changes in leisure time habits with increasing UV exposure. In this paper, an attempt is made to estimate any additional future risks for the development of skin cancer as a result of increasing UV *radiation* caused by stratospheric ozone depletion. Its reduction has been reported to be 3% over large areas of the globe (65 degrees North to 65 degrees South) according to the latest study of the United Nations Environment Programme.(ABSTRACT TRUNCATED AT 250 WORDS). Author-abstract. 42 Refs.

MJ ATMOSPHERE. CROSS-CULTURAL-COMPARISON. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). OZONE. SKIN-NEOPLASMS: epidemiology (ep). SUNLIGHT: adverse-effects (ae). ULTRAVIOLET-RAYS: adverse-effects (ae).

MN COMPARATIVE-STUDY. CROSS-SECTIONAL-STUDIES. ENGLISH-ABSTRACT. GERMANY: epidemiology (ep). HUMAN. INCIDENCE. MELANOMA: epidemiology (ep), etiology (et), prevention-and-control (pc). *NEOPLASMS-RADIATION-INDUCED:* etiology (et), prevention-and-control (pc). SKIN-NEOPLASMS: etiology (et), prevention-and-control (pc).

RN 10028-15-6 -- Ozone.

SB Priority Journals (M).
YR 1993.
IS 0017-8470. G13.
CP GERMANY (Z1.542.315).
IM 9306.
ND ENTRY DATE: 930413.

5

AN 93193085. 93063.
AU Ragnarsson-Olding-B. Johansson-H. Rutqvist-L-E. Ringborg-U.
IN Department of General Oncology, Radiumhemmet, Karolinska Hospital,
Stockholm, Sweden.
TI Malignant melanoma of the vulva and vagina. Trends in incidence, age
distribution, and long-term survival among 245 consecutive cases in
Sweden 1960-1984.
SO Cancer. 1993 Mar 1. 71(5). P 1893-7.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND. Malignant melanomas of the vulva and vagina are rare
tumors located in areas of the body not exposed to ultraviolet
radiation. Investigations comprising large consecutive
population-based series of patients with these diseases have not been
published previously, to the knowledge of the authors. METHODS.
Trends in incidence, age distribution, and prognosis were
investigated among 219 consecutive cases of malignant melanoma of the
vulva and 26 cases in the vagina, reported to the Swedish National
Cancer *Registry* and representing virtually all primary tumors of that
kind in Sweden during a 25-year period, 1960-1984. RESULTS. On
average, 75% of the patients with vulvar melanoma and 73% with
vaginal melanoma were older than 60 years of age. The mean age
increased slightly but not significantly during the period. The
age-standardized incidence of vulvar melanoma decreased from 0.27 to
0.14 per 100,000 Swedish women, or by 3% per year. The observed
5-year survival rate of patients with vulvar melanoma was 35%, and
the relative survival rate was 47%. The observed and relative
survival rates at 10 years were 23% and 44%, respectively. Observed
and relative survival rates among patients with vaginal melanoma
after 5 years were 13% and 18%, respectively. CONCLUSIONS.
Accordingly, there was a decreasing incidence of vulvar and vaginal
melanoma over the observed 25 years. This is in contrast to the
trends in incidence for cutaneous melanomas in Sweden, which, during
the same time period, increased almost 6% per year.
Author-abstract.
MJ MELANOMA: epidemiology (ep). VAGINAL-NEOPLASMS: epidemiology (ep).
VULVAR-NEOPLASMS: epidemiology (ep).
MN ADOLESCENCE. ADULT. AGE-FACTORS. AGED. AGED-80-AND-OVER. FEMALE.
HUMAN. INCIDENCE. MELANOMA: mortality (mo). MIDDLE-AGE.
SUPPORT-NON-U-S-GOVT. SURVIVAL-RATE. SWEDEN: epidemiology (ep).
VAGINAL-NEOPLASMS: mortality (mo). VULVAR-NEOPLASMS: mortality (mo).

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930409.

6

AN 93191320. 93062.
AU Horowitz-M-M. Bortin-M-M.
IN International Bone Marrow Transplant *Registry,* Medical College of Wisconsin, Milwaukee 53226.
TI Results of bone marrow transplants from human leukocyte antigen-identical sibling donors for treatment of childhood leukemias. A report from the International Bone Marrow Transplant *Registry.*
SO Am-J-Pediatr-Hematol-Oncol. 1993 Feb. 15(1). P 56-64.
JT AMERICAN JOURNAL OF PEDIATRIC HEMATOLOGY/ONCOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-MULTICASE (RMC).
LG English (EN).
AB PURPOSE: Bone marrow transplantation is an effective treatment for leukemia. Cures are possible in 20-80% of transplant recipients depending on the stage of leukemia at the time of transplant. The antileukemia efficacy of transplants result from high-dose chemotherapy and/or *radiation* given pretransplant and from immune-mediated effects of the graft. RESULTS: Success of the procedure is limited by transplant-related complications, including graft rejection, graft-vs.-host disease and interstitial pneumonia. Five-year leukemia-free survival ranges from approximately 25% for children transplanted with advanced leukemia, to > 60% in those transplanted in first remission of acute leukemia or first chronic phase of chronic myeloid leukemia. CONCLUSIONS: Candidates for transplant include children failing conventional therapy and, possibly, those with early leukemia characterized by features predicting a poor response to conventional therapy.
Author-abstract. 65 Refs.
MJ BONE-MARROW-TRANSPLANTATION: statistics-and-numerical-data (sn). HLA-ANTIGENS: immunology (im). LEUKEMIA: surgery (su).
MN ACTUARIAL-ANALYSIS. ANEMIA-APLASTIC: surgery (su). BONE-MARROW-TRANSPLANTATION: adverse-effects (ae), immunology (im). CHILD. COMBINED-MODALITY-THERAPY. CYTOMEGALIC-INCLUSION-DISEASE: epidemiology (ep), etiology(et). GRAFT-VS-HOST-DISEASE: epidemiology (ep). GRAFT-REJECTION. HEREDITARY-DISEASES: surgery (su). HUMAN. INTERNATIONAL-COOPERATION. LEUKEMIA-LYMPHOCYTIC-ACUTE: drug-therapy (dt), mortality (mo), surgery (su). LEUKEMIA-MYELOCYTIC-ACUTE: drug-therapy (dt), mortality (mo), surgery (su). LEUKEMIA-MYELOID-PHILADELPHIA-POSITIVE: drug-therapy (dt), mortality (mo), surgery (su). NUCLEAR-FAMILY. POSTOPERATIVE-COMPLICATIONS:

epidemiology (ep), etiology (et). PULMONARY-FIBROSIS: epidemiology (ep), etiology (et). *REGISTRIES.* REMISSION-INDUCTION. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. SURVIVAL-ANALYSIS. TRANSPLANTATION-HOMOLOGOUS. TREATMENT-OUTCOME.

RN 0 -- HLA-Antigens.

SB Priority Journals (M).

YR 1993.

IS 0192-8562. 35P.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930406.

NO P01CA40053. GRANT: CA. INSTITUTE: NCI.

7

AN 93187672. 93062.

AU van-Leeuwen-F-E. Stiggelbout-A-M. van-den-Belt-Dusebout-A-W.

Noyon-R. Eliel-M-R. van-Kerkhoff-E-H. Delemarre-J-F. Somers-R.

IN Department of Epidemiology, Netherlands Cancer Institute, Amsterdam.

TI Second cancer risk following testicular cancer: a follow-up study of 1,909 patients.

SO J-Clin-Oncol. 1993 Mar. 11(3). P 415-24.

JT JOURNAL OF CLINICAL ONCOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB PURPOSE: Improved survival in testicular cancer has been accompanied by concern about long-term side effects of therapy. We assessed the evolution of second cancer (SC) risk over a prolonged follow-up period, which has been rarely studied in large patient series. PATIENTS AND METHODS: We estimated the risk of SCs in 1,909 patients with testicular cancer diagnosed in the Netherlands from 1971 to 1985. Complete medical information was obtained up to at least January 1988 for 92% of patients. Median follow-up was 7.7 years. For 89% of second tumors the diagnosis was confirmed through review of histologic slides; for an additional 8%, the diagnosis was verified by pathology reports only. RESULTS: Seventy-eight patients developed a SC 1 year or more after start of treatment, as compared with 47.6 expected on the basis of incidence rates in the general population (relative risk `RR: 1.6; 95% confidence interval `CI: 1.3 to 2.1). The mean 15-year actuarial risk of all SCs was 9.8% (95% CI, 7.5% to 12.8%). Significantly increased RRs were observed for all gastrointestinal cancers combined (RR, 2.6; 95% CI, 1.7 to 3.9), stomach cancer (RR, 3.7; 95% CI, 1.8 to 6.8), contralateral testicular cancer (CLTC) (RR, 35.7; 95% CI, 21.8 to 55.2), and leukemia (RR, 5.1; 95% CI, 1.4 to 13.0). Patients who had received irradiation to the paraaortic lymph nodes and who survived testicular cancer for more than 5 years were at particularly high risk of developing stomach cancer (RR, 6.9; 95% CI, 3.3 to 12.7). The median interval between the diagnosis of testicular cancer and stomach cancer was 12.4 years. Patients treated with chemotherapy (CT) did not experience an increase in SCs in general. Indeed, CT-treated

patients, as compared with those who received radiotherapy (RT), or surgery alone, had significantly reduced risk of CLTC. This finding might be attributed to an eradicating effect of CT on carcinoma in situ or subclinical CLTC. The excess risk of leukemia was not found to be clearly related to CT. CONCLUSION: Testicular cancer patients who receive RT experience elevated risk of gastrointestinal tumors. CT does not seem to increase SC risk and may even decrease the risk of a CLTC. Following testicular cancer, the 15-year actuarial risk of all SCs is only about half the risk experienced by patients with Hodgkin's disease. Author-abstract.

MJ NEOPLASMS-SECOND-PRIMARY: etiology (et). TESTICULAR-NEOPLASMS: therapy (th).
MN ADULT. ANTINEOPLASTIC-AGENTS-COMBINED: adverse-effects (ae). COMBINED-MODALITY-THERAPY: adverse-effects (ae). FOLLOW-UP-STUDIES. HUMAN. MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* etiology (et). ORCHIECTOMY: adverse-effects (ae). RADIOTHERAPY: adverse-effects (ae). *REGISTRIES.* STATISTICS. SUPPORT-NON-U-S-GOVT.
RN 0 -- Antineoplastic-Agents-Combined.
SB Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0732-183X. JCO.
CP UNITED-STATES (Z1.107.567.875).
IM 9306.
ND ENTRY DATE: 930406.

8

AN 93175309. 93054.
AU Strikwerda-S. Koolen-J-J. de-Feyter-P-J. Sprangers-R-L. Tijssen-J-G. Serruys-P-W.
IN Department of Cardiology, University Hospital Dijkzigt, Erasmus University, Rotterdam, The Netherlands.
TI Excimer laser coronary angioplasty in The Netherlands: preamble for a randomized study.
SO Am-Heart-J. 1993 Mar. 125(3). P 838-47.
JT AMERICAN HEART JOURNAL.
PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART). MULTICENTER-STUDY (MUL). RANDOMIZED-CONTROLLED-TRIAL (RCT).
LG English (EN).
AB The immediate outcome of ELCA by XeCl excimer laser *radiation* is described in 53 patients who were selected to undergo ELCA from December 1990 to September 1991 in two centers that are currently performing ELCA in the Netherlands. Immediate success rates on the basis of visual assessment of the angiogram were as follows. Laser success (> 20% reduction of diameter stenosis after ELCA alone) was observed in 77% of patients, procedural success (< 50% residual stenosis after ELCA with or without adjunctive balloon dilatation `PTCA:') in 91%, and clinical success (procedural success without clinical complications) in 83% of patients. Quantitative coronary angiography by automated contour detection was performed in 31

patients who underwent ELCA in the Thoraxcenter. The minimal luminal diameter (mean +/- SD) of the treated coronary segments increased from 0.77 +/- 0.41 mm to 1.24 +/- 0.25 mm after ELCA and further to 1.67 +/- 0.29 mm after adjunctive PTCA in 25 patients. The present experience is put in perspective of results initially reported by other centers and compared with data from multicenter *registries* of ELCA. Finally, a short description is given of the design of a prospective, randomized trial of ELCA versus conventional PTCA (AMRO trial). Author-abstract.

MJ ANGIOPLASTY-BALLOON-LASER-ASSISTED.

ANGIOPLASTY-TRANSLUMINAL-PERCUTANEOUS-CORONARY. CORONARY-DISEASE: surgery (su).

MN ANGIOPLASTY-BALLOON-LASER-ASSISTED: statistics-and-numerical-data (sn). ANGIOPLASTY-TRANSLUMINAL-PERCUTANEOUS-CORONARY: statistics-and-numerical-data (sn). CORONARY-DISEASE: epidemiology (ep). FEMALE. HUMAN. MALE. MIDDLE-AGE. NETHERLANDS: epidemiology (ep). PROSPECTIVE-STUDIES. *REGISTRIES.* RESEARCH-DESIGN. TREATMENT-OUTCOME.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1993.

IS 0002-8703. 3BW.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930325.

9

AN 93169232. 93054.

AU Draper-G-J. Stiller-C-A. Cartwright-R-A. Craft-A-W. Vincent-T-J.

IN Childhood Cancer Research Group, University of Oxford.

TI Cancer in Cumbria and in the vicinity of the Sellafield nuclear installation, 1963-90.

SO BMJ. 1993 Jan 9. 306(6870). P 89-94.

JT BMJ.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To reappraise the epidemiological findings reported by the Black Advisory Group concerning a possible excess of malignant disease, particularly of childhood acute lymphoid leukaemia and non-Hodgkin lymphomas, in the vicinity of the Sellafield nuclear installation, and to determine whether any excess of malignant disease had occurred among people aged 0-24 years in the area in the years after the Black report--that is, from 1984 to 1990.

DESIGN--Calculation of incidence of cancer using data from population based cancer *registries* and special surveys. SETTING--England and Wales; county of Cumbria; county districts Allerdale and Copeland within Cumbria; Seascale ward within Copeland. SUBJECTS--All residents under the age of 75 years in the above areas, but with particular reference to those aged 0-24 years. MAIN OUTCOME MEASURES--Numbers of cases and incidence particularly of lymphoid leukaemia and non-Hodgkin lymphomas in those aged 0-24 years, but

including other cancers and age groups. RESULTS--Previous reports of an increased incidence of cancer, especially of leukaemia, among those aged 0-24 years in Seascale during the period up to and including 1983 are confirmed. During 1984-90 there was an excess of total cancer among those aged 0-24 years. This was based on four cases including two cases of non-Hodgkin lymphoma but none of leukaemia. There was an increased, but nonsignificant, incidence of other cancers, based on two cases (one pinealoma and one Hodgkin's disease) occurring among those aged 15-24 years during 1984-90. This was not observed in the younger age group or in previous years. For the immediately surrounding area--that is, the county districts of Allerdale and Copeland excluding Seascale and in the remainder of Cumbria--there was no evidence of an increased incidence of cancer among those aged 0-24 years in either period. CONCLUSIONS--During 1963-83 and 1984-90 the incidence of malignant disease, particularly lymphoid leukaemia and non-Hodgkin lymphomas, in young people aged 0-24 in Seascale was higher than would be expected on the basis of either national rates or those for the surrounding areas. Although this increased risk is unlikely to be due to chance, the reasons for it are still unknown. Author-abstract.

MJ NEOPLASMS: epidemiology (ep). NUCLEAR-REACTORS.
MN ADOLESCENCE. ADULT. AGED. CHILD. CHILD-PRESCHOOL.
COMPARATIVE-STUDY. ENGLAND: epidemiology (ep). FEMALE. HUMAN.
INCIDENCE. INFANT. INFANT-NEWBORN. LEUKEMIA: epidemiology (ep).
LEUKEMIA-LYMPHOCYTIC-ACUTE-L1: epidemiology (ep).
LEUKEMIA-RADIATION-INDUCED: etiology (et). LYMPHOMA-NON-HODGKINS:
epidemiology (ep). MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:*
etiology (et). SUPPORT-NON-U-S-GOVT. WALES: epidemiology (ep).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1993.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 9305.
ND ENTRY DATE: 930325.

10

AN 93164392. 93053.
AU Howard-L.
IN Albany Medical College, NY 12208.
TI Home parenteral nutrition in patients with a cancer diagnosis.
SO JPEN-J-Parenter-Enteral-Nutr. 1992 Nov-Dec. 16(6 Suppl). P
93S-99S.
JT JPEN. JOURNAL OF PARENTERAL AND ENTERAL NUTRITION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The clinical outcome for 1362 patients with active cancer managed on
home parenteral nutrition (HPN) is compared with that of 122 patients
with *radiation* enteritis ("cured" cancer) and 416 patients with
Crohn's disease. This longitudinal clinical information was reported

to the North American Home Parenteral and Enteral Nutrition *Registry* (Oley Foundation/A.S.P.E.N. joint project) between 1985 and 1989. The data shows that the number of active cancer patients on this therapy is increasing 13% per year. The annual survival rate is 25% for patients with active cancer, as compared with 88% for patients with *radiation* enteritis and 95% for patients with Crohn's disease. Although 50% of all active cancer patients starting HPN are dead within 6 to 9 months, the prognosis is somewhat better in children, and 20% of these active cancer patients appear to do well, returning to full oral nutrition and experiencing complete rehabilitation. These are presumed to be patients with a potentially curable cancer requiring super-aggressive treatment, which causes temporary severe gastrointestinal dysfunction. Adult active cancer patients have the same rehospitalization rate for HPN complications (once per year) as *radiation* enteritis and Crohn's disease patients. However, their rehospitalization rate for non-HPN complications is four times higher. This article reviews the factors that may explain the growth of HPN in active cancer patients and discusses some of the unanswered clinical questions that urgently need to be addressed to more effectively determine the appropriateness or inappropriateness of HPN management in the active cancer setting. Author-abstract.

MJ NEOPLASMS: therapy (th). PARENTERAL-NUTRITION-HOME.

MN ADOLESCENCE. ADULT. AGED. CANADA. CHILD. CHILD-PRESCHOOL. CROHN-DISEASE: therapy (th). ENTERITIS: therapy (th). FEMALE. HUMAN. INFANT. MALE. MIDDLE-AGE. NEOPLASMS: mortality (mo). PARENTERAL-NUTRITION-HOME: statistics-and-numerical-data (sn), utilization (ut). *RADIATION-INJURIES:* therapy (th). *REGISTRIES.* SURVIVAL-RATE. TREATMENT-OUTCOME. UNITED-STATES.

SB Priority Journals (M).

YR 1992.

IS 0148-6071. KGA.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930312.

11

AN 93160006. 93053.

AU dos-Santos-Silva-I. Swerdlow-A-J.

IN Department of Epidemiology and Population Sciences, London School of Hygiene and Tropical Medicine, UK.

TI Thyroid cancer epidemiology in England and Wales: time trends and geographical distribution.

SO Br-J-Cancer. 1993 Feb. 67(2). P 330-40.

JT BRITISH JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Thyroid cancer incidence has been increasing in many countries, whereas mortality has been falling due to better survival. *Radiation* is the best-established risk factor and there has been concern that recent rises in incidence might be related to fallout *radiation* from

atmospheric nuclear weapon tests. We examined thyroid cancer time trends and geographical distribution in England and Wales and possible interpretations of these. During 1962-84, there were significant increases in incidence ($P < 0.001$) in each sex at ages under 45. Cohort analysis by single year of birth showed an overall increase in incidence risks in women aged 0-44 born since 1920, with a sudden rise in risk for the birth years 1952-55 followed by a lower risk for the more recent cohorts. In men, there was an overall increase in risk at ages 0-44 in successive birth cohorts, but the pattern was irregular. In each sex, the risk in persons aged 45 and over decreased slightly in successive generations. Geographically, highest incidence risks were in countries in North and Mid Wales, in which the risk was almost twice that in the rest of the country. This pattern was present only at ages 45 and over and was most clear in rural areas. The peak of thyroid cancer risk in women born in 1952-55 is consistent with a carcinogenic effect of fallout *radiation,* since these women were children in the late 1950s and early 1960s when fallout *radiation* was greatest in England and Wales. The focus of high thyroid cancer risks in Wales was in areas with high levels of fallout *radiation.* However, thyroid cancer risks in Wales were not high for more recent cohorts (the ones who were exposed to fallout early in life), and a focus on high risk of benign thyroid diseases was present in Wales well before nuclear weapons existed. The distributions of these benign thyroid diseases, or of factors causing them, seem more likely than fallout to explain the high risk areas for thyroid cancer in the country. Author-abstract.

MJ THYROID-NEOPLASMS: epidemiology (ep).

MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. ENGLAND: epidemiology (ep). FEMALE. HUMAN. INCIDENCE. INFANT-NEWBORN. MALE.

MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS. SUPPORT-NON-U-S-GOVT.

TIME-FACTORS. WALES: epidemiology (ep).

SB Priority Journals (M). Cancer Journals (X).

YR 1993.

IS 0007-0920. AV4.

CP ENGLAND (Z1.542.363.300).

IM 9305.

ND ENTRY DATE: 930317.

12

AN 93157986. 93052.

AU Harnes-D-K. Thune-P.

IN Hudavdelingen, Ulleval sykehus, Oslo.

TI `Photochemotherapy--psoralen + UV-A (PUVA)--increased risk of cancer?::

TT Fotokjemoterapi--psoralen + UV-A (PUVA)--oket risiko for kreft?

SO Tidsskr-Nor-Laegeforen. 1993 Jan 20. 113(2). P 200-1.

JT TIDSSKRIFT FOR DEN NORSKE LAEGEFORENING.

PT JOURNAL-ARTICLE (ART).

LG Norwegian (NO).

AB Photochemotherapy with psoralens + ultraviolet (UV)-A light (PUVA)

has been used for about 16 years to treat psoriasis. Some reports have indicated a higher frequency of cutaneous squamous cell carcinoma among treated patients. The results are not consistent, however, and are not generally conceded. Our material from Ulleval Hospital comprises 585 patients who have been treated with PUVA from 1977 until 1991. Three patients developed cutaneous squamous cell carcinoma, but in one of them the tumour developed before start of PUVA treatment. The two others had received only very small doses. One of them had an intraepithelial cancer of the penis. In addition we registered various internal cancers in 25 patients. The Norwegian Cancer *Registry* compared our patient material with a matched control group as regards sex, age and age-specific incidence rate. There was no statistically significant difference in incidence between the patient and the control group. Author-abstract.

MJ CARCINOMA-SQUAMOUS-CELL: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). PUVA-THERAPY: adverse-effects (ae). SKIN-NEOPLASMS: etiology (et).
MN ENGLISH-ABSTRACT. HUMAN. PSORIASIS: drug-therapy (dt). RISK-FACTORS.
YR 1993.
IS 0029-2001. VRV.
CP NORWAY (Z1.542.808.618).
IM 9305.
ND ENTRY DATE: 930310.

13

AN 93147857. 93051.
AU Abrahamsen-J-F. Andersen-A. Hannisdal-E. Nome-O. Abrahamsen-A-F. Kvaloy-S. Host-H.
IN Norwegian Radium Hospital, Oslo.
TI Second malignancies after treatment of Hodgkin's disease: the influence of treatment, follow-up time, and age.
SO J-Clin-Oncol. 1993 Feb. 11(2). P 255-61.
JT JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB PURPOSE: In the period 1968 through 1988, The Norwegian Radium Hospital (NRH) treated an unselected population of 1,152 patients with Hodgkin's disease (HD) that comprised more older patients (mean age, 43 years) than most other institutions. We considered it important to evaluate these patients for development of second cancers (SCs). PATIENTS AND METHODS: The Norwegian Cancer *Registry* identified previously untreated patients with HD treated at NRH who had developed a SC more than 1 year after diagnosis of HD. The relative risk ratio (RR) (observed/expected cases) and the cumulative risk were calculated. RESULTS: Sixty-eight patients had developed a SC, including nine acute nonlymphocytic leukemias (ANLLs), eight non-Hodgkin's lymphomas (NHLs), and 51 solid tumors, including 11 lung cancers. The RR of SC and leukemia was 1.86 (95% confidence interval `CI:, 1.4 to 2.4) and 24.3 (95% CI, 11.1 to 46.2),

respectively. The RR of SC was highest in younger patients (< 41 years, RR = 3.8). No significant association between splenectomy and development of ANLL was found. The influence of treatment and follow-up time on the development of SC agrees with data from other large cancer institutions. CONCLUSION: (1) The low RR of developing a SC in this study is probably due to the number of older patients included, who have a lower RR of developing a SC due to less aggressive treatment, shorter follow-up time, and higher incidence of cancer in the expected background population. (2) The low RR and cumulative risk of developing ANLL may be due to the limited use of extensive chemotherapy (CT) in our hospital in the earlier years. Author-abstract.

MJ HODGKINS-DISEASE: therapy (th). NEOPLASMS-SECOND-PRIMARY: etiology (et).
MN ADOLESCENCE. ADULT. AGE-FACTORS. COMBINED-MODALITY-THERAPY. FEMALE. HODGKINS-DISEASE: drug-therapy (dt), radiotherapy (rt). HUMAN. *LEUKEMIA-RADIATION-INDUCED:* etiology (et). MALE. MIDDLE-AGE. NORWAY. *REGISTRIES.* RISK-FACTORS. TIME-FACTORS.
SB Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0732-183X. JCO.
CP UNITED-STATES (Z1.107.567.875).
IM 9305.
ND ENTRY DATE: 930302.

14

AN 93142728. 93044.
AU Chan-S-L. Kagan-R. Streeter-O-E Jr. Ryoo-M-C.
IN Regional *Radiation* Oncology Department, Southern California Permanente Medical Group, Los Angeles 90033.
TI Outcome of care. Complications from *radiation* therapy treatment.
SO Am-J-Clin-Oncol. 1993 Feb. 16(1). P 81-5.
JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This study was undertaken to examine *radiation* treatment complications. From September 1987 through December 1989, 29,380 patients were screened at their follow-up visits for possible *radiation* complications. Of these patients, 1,380 were singled out for further study. These 1,380 charts were examined by a *radiation* oncologist and physicist to determine if there was a *radiation* complication, the severity of the complication, and whether a calculation or setup error could account for the complications. Of the 1,380 patients studied, 178 (3% of new patients treated each year) were determined to have *radiation* complications. These complications were divided into four categories of severity and entered into our computerized tumor *registry* as follows: complication type R1, complete recovery from symptoms, n = 59; R2, injury requiring medications to control injury, n = 104; S1, surgical intervention for one organ, n = 12; and S2, surgical intervention for

two organs, n = 3. We believe that a baseline complication rate of 5% is acceptable in *radiation* oncology practices. However, the examination and documentation of the outcome of care in the form of *radiation* complications can help improve patient care and keep the *radiation* oncologist abreast of treatment outcome trends in the department. Author-abstract.

MJ NEOPLASMS: radiotherapy (rt). *RADIATION-INJURIES.*
MN *DOSE-RESPONSE-RELATIONSHIP-RADIATION.* HUMAN. QUALITY-CONTROL.
RADIOTHERAPY: standards (st). TREATMENT-OUTCOME.
SB Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0277-3732. 3EZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930219.

15

AN 93137392. 93044.
AU Rajendran-R. Raju-G-K. Nair-S-M. Balasubramanian-G.
IN Department of Oral Pathology and Microbiology, Medical College,
Trivandrum, India.
TI Prevalence of oral submucous fibrosis in the high natural *radiation*
belt of Kerala, south India.
SO Bull-World-Health-Organ. 1992. 70(6). P 783-9.
JT BULLETIN OF THE WORLD HEALTH ORGANIZATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Oral submucous fibrosis (OSMF) is a crippling disorder which is
confined almost exclusively to the Indian subcontinent. Despite its
association with a significantly increased risk of cancer, the
etiology is still not clear. An epidemiological assessment showed
0.4% prevalence for OSMF in Kerala, South India, which is among the
highest recorded. Recently the National Tumour *Registry* in
Trivandrum reported the highest recorded site-specific incidence rate
for oral cancer (ICD 140-145) in this area. The coastal belt of the
Trivandrum and Quilon districts of Kerala has a very high natural
radioactivity (over 1500 mR (387 microC) per year); about 500 mR (129
microC) per year is considered to be the maximum permissible dose for
populations in general. An epidemiological survey in this area and
in a comparable population (without exposure to high background
radiation) as a control showed that the percentage prevalence of OSMF
in the study area was 0.27 and in the control area 0.32. It appears
highly improbable that the OSMF in the study area was induced by high
background *radiation.* Author-abstract.
MJ *BACKGROUND-RADIATION:* adverse-effects (ae). ORAL-SUBMUCOUS-FIBROSIS:
etiology (et).
MN ADOLESCENCE. ADULT. AGED. CHILD. FEMALE. HUMAN. INDIA:
epidemiology (ep).MALE. MIDDLE-AGE. MOUTH-NEOPLASMS: epidemiology
(ep). ORAL-SUBMUCOUS-FIBROSIS: epidemiology (ep). PREVALENCE.
SUPPORT-NON-U-S-GOVT.

YR 1992.
IS 0042-9686. C80.
CP SWITZERLAND (Z1.542.883).
IM 9304.
ND ENTRY DATE: 930225.

16

AN 93135935. 93044.
AU Launoy-G. Gignoux-M. Pottier-D. Lefort-F. Soumrany-A. Maurel-J.
Beck-A.
IN Registre specialise des tumeurs digestives du Calvados, Faculte de
Medecine CHRU, Cote de Nacre, Caen, France.
TI Prognosis of rectal cancer in France.
SO Eur-J-Cancer. 1993. 29A(2). P 263-6.
JT EUROPEAN JOURNAL OF CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB We studied changes in the prognosis of cancer of the rectum
(excluding the rectosigmoid junction) from 1978 to 1986 in the French
department of Calvados on the basis of the 616 cases in the cancer
registry. Taken as whole, survival has improved slightly with time
($P < 0.01$), but the improvement is only significant for men ($P < 0.02$),
patients under 70 years ($P < 0.01$) and patients living in
urban areas ($P < 0.05$). With regard to tumour characteristics, the
improvement was significant only for patients with Dukes' stage C
tumours at surgery ($P < 0.02$). To determine the reasons for the
improvement in survival, the year of diagnosis and all other
prognostic factors were studied in a multivariate model. Diagnostic
conditions such as age and tumour stage did not vary from 1978 to
1986; in contrast, the rates of tumour resection and adjuvant
radiation therapy increased, possibly explaining at least part of the
improvement, particularly for patients with Dukes' stage C tumours.
Author-abstract.
MJ RECTAL-NEOPLASMS: mortality (mo).
MN AGED. FEMALE. FRANCE: epidemiology (ep). HUMAN. MALE.
NEOPLASM-STAGING. PROGNOSIS. RECTAL-NEOPLASMS: pathology (pa),
radiotherapy (rt), surgery (su). SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M). Cancer Journals (X).
YR 1993.
IS 0959-8049. ARV.
CP ENGLAND (Z1.542.363.300).
IM 9304.
ND ENTRY DATE: 930223.

17

AN 93118518. 93041.
TI `National *registry* of retinoblastoma in Japan (1975-1982). The
Committee for the National *Registry* of Retinoblastoma:.
SO Nippon-Ganka-Gakkai-Zasshi. 1992 Nov. 96(11). P 1433-42.
JT NIPPON GANKA GAKKAI ZASSHI. ACTA SOCIETATIS OPHTHALMOLOGICAE

JAPONICAE.

PT JOURNAL-ARTICLE (ART).

LG Japanese (JA).

AB Clinical, pathological and follow-up data on 1,147 cases of retinoblastoma registered in Japan from 1975 to 1982 were statistically analysed. The cumulative survival rate of the 1,147 cases, calculated by the Kaplan-Meier method, was 93.0% at 5 years and 90.3% at 10 years. The survival rate of the 757 unilateral cases was 93.3% at 5 years and 92.3% at 10 years. For the 390 bilateral cases, however, the survival rate was 92.2% at 5 years and 86.7% at 10 years. A Cox multivariate analysis indicated that, among various clinical and pathological findings in the patients, extraocular invasion of the tumor is the most significant risk factor predictive of tumor death. The survival rate of those with extraocular invasion subsequently treated by local *radiation* and/or systemic chemotherapy was significantly better than the rate of those with extraocular invasion who did not receive aftercare. The cumulative incidence rate of second cancers in 409 cases of hereditary retinoblastoma was 4.8% at 10 years, 9.8% at 15 years and 15.7% at 20 years. The occurrence of a second cancer was the main cause of death in the hereditary cases after 10 years. Author-abstract.

MJ EYE-NEOPLASMS: epidemiology (ep). *REGISTRIES.* RETINOBLASTOMA: epidemiology (ep).

MN COMBINED-MODALITY-THERAPY. ENGLISH-ABSTRACT. EYE-NEOPLASMS: mortality (mo), pathology (pa). HUMAN. JAPAN: epidemiology (ep). NEOPLASM-INVASIVENESS. RETINOBLASTOMA: mortality (mo), pathology (pa). RISK-FACTORS. SURVIVAL-RATE.

YR 1992.

IS 0029-0203. 220.

CP JAPAN (Z1.252.474.463).

IM 9304.

ND ENTRY DATE: 930201.

18

AN 93115744. 93041.

AU Horner-R-D. Samsa-G.

IN Center for Health Services Research in Primary Care, VA Medical Center, Durham, NC 27705.

TI Criteria for the use of Sartwell's incubation period model to study chronic diseases with uncertain etiology.

SO J-Clin-Epidemiol. 1992 Oct. 45(10). P 1071-80.

JT JOURNAL OF CLINICAL EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This study explores the conditions under which Sartwell's incubation period model may be appropriate for identifying a primary time period of etiologic risk for chronic diseases with uncertain etiology. The investigation begins with a description of the evolution of the application of Sartwell's model from infectious to chronic diseases. The model's underlying assumptions and some concerns about its use in

the chronic disease context are specified. These concerns are addressed by data simulations and analyses of empirical data from the Connecticut Tumor *Registry* and the *Radiation* Effects Research Foundation. The results indicate that the distribution of age at diagnosis (i.e. onset) for chronic diseases is not necessarily lognormal. However, the representativeness of age distribution of the case series can affect the distribution's form; hence, it is important to determine the extent of "missing" cases, particularly those lost through truncation. Moreover, a lognormal age distribution may occur with both prenatal and age-related postnatal exposures. These findings suggest that only under certain conditions will Sartwell's model be useful in the study of chronic diseases of uncertain etiology, and indicate some caveats for interpretation of the results. Author-abstract.

MJ CHRONIC-DISEASE. MODELS-STATISTICAL.

MN EPIDEMIOLOGIC-METHODS. HUMAN. INFECTION. NEOPLASMS.

SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S.

SB Priority Journals (M).

YR 1992.

IS 0895-4356. JCE.

CP ENGLAND (Z1.542.363.300).

IM 9304.

ND ENTRY DATE: 930203.

19

AN 93113643. 93041.

AU Janjan-N-A. Zellmer-D-L.

IN Department of *Radiation* Oncology, Medical College of Wisconsin, Milwaukee 53226.

TI Calculated risk of breast cancer following mantle irradiation determined by measured dose.

SO Cancer-Detect-Prev. 1992. 16(5-6). P 273-82.

JT CANCER DETECTION AND PREVENTION.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Tumor *registry* data indicate a two- to fourfold increased incidence of breast cancer following mantle irradiation, but cumulative risk is unknown. *Radiation* exposure to the breasts underlying the mantle block ranges from 4 to 40 Gy and is dependent on relative positions of the breasts and mantle block. Unshielded outer breast quadrants near axillary nodal regions receive 36 to 40 Gy, while central breast quadrants under the lung blocks receive approximately 4 Gy as determined by dose volume histogram analysis. Relative dose risk analysis for breast cancer following mantle irradiation was performed and indicated an overall excess risk of 1.5 for the upper outer quadrant (total dose 40 Gy), 1.3 for the upper and lower inner, and central quadrants (total dose 15 to 20 Gy), and 1.2 for the lower outer quadrant (total dose 4 Gy). Linear and cell-kill carcinogenesis models demonstrated similar relative risk assessments in the low-dose regions, defined as < 15 Gy. Predicted risk for

breast cancer in the high-dose regions ($>$ or $=$ 15 Gy) varied considerably according to the model evaluated. The linear model predicted a three to ten times greater risk above baseline breast cancer incidence for the high-dose regions. In contrast, the cell-kill model predicted no excess cases of breast cancer, assuming cell death at these higher dose levels. The greatest relative predicted risk is observed in women $<$ 20 years of age at the time of irradiation; however, women older than 20 years continue to have a 50% higher than baseline risk for subsequent breast cancer development. All women treated for Hodgkin's lymphoma should undergo dose volume histogram evaluation. Prospective clinical and mammographic evaluations should be performed in all female patients following mantle irradiation to better define the risk for secondary breast carcinogenesis. Author-abstract.

MJ BREAST-NEOPLASMS: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et).

MN ADULT. CASE-REPORT. CELL-DEATH: *radiation-effects* (re). FEMALE. HODGKINS-DISEASE: radiotherapy (rt). HUMAN. RADIOTHERAPY: adverse-effects (ae). RADIOTHERAPY-DOSAGE. RISK-FACTORS.

SB Priority Journals (M).

YR 1992.

IS 0361-090X. CNZ.

CP UNITED-STATES (Z1.107.567.875).

IM 9304.

ND ENTRY DATE: 930204.

20

AN 93094870. 93033.

AU Bastin-K-T. Mehta-M-P.

IN Department of Human Oncology, University of Wisconsin Hospital and Clinics, Madison 53792.

TI Meningeal hemangiopericytoma: defining the role for *radiation* therapy.

SO J-Neurooncol. 1992 Nov. 14(3). P 277-87.

JT JOURNAL OF NEURO-ONCOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB Meningeal hemangiopericytoma is a rare neoplasm arising from perivascular pericytes. Accounting for $<$ 1% of all brain tumors, these neoplasms are characterized by a high local recurrence rate and metastatic potential. Meningeal hemangiopericytoma occur most frequently during the fifth decade of life, with an almost equal sex incidence. To evaluate and define the role for primary, postoperative, or palliative radiotherapy in meningeal hemangiopericytoma, data were gathered from our own tumor *registry* and compiled with an extensive analysis of published series and case reports. This analysis reveals a 90%, 9 year actuarial risk for local recurrence following surgical resection only. Interestingly, less than 33% of these recurrences were noted within the first five years, which may account for the false assumption that these tumors

are highly curable with surgical resection only. *Radiation* therapy appears to reduce this local recurrence rate, prolonging disease-free and overall survival. *Radiation* responses are dose dependent, with > 50 Gray providing superior long-term disease-free survival.

Meningeal hemangiopericytoma are characterized by a slow, but progressive radiographic response to ionizing *radiation,* not unlike other radiated, highly vascular brain lesions, such as arteriovenous malformations. A retrospective review of clinical demographics, sites of meningeal origin, radiographic and pathologic findings and the role of chemotherapy is also presented. Author-abstract. 42 Refs.

MJ HEMANGIOPERICYTOMA: radiotherapy (rt). MENINGEAL-NEOPLASMS: radiotherapy (rt).

MN ADOLESCENCE. ADULT. AGE-FACTORS. AGED. CHILD. FEMALE. HEMANGIOPERICYTOMA: mortality (mo), surgery (su). HUMAN. MALE. MENINGEAL-NEOPLASMS: mortality (mo), surgery (su). MIDDLE-AGE. NEOPLASM-RECURRENCE-LOCAL. POSTOPERATIVE-CARE. SEX-FACTORS. SURVIVAL-ANALYSIS.

SB Priority Journals (M).

YR 1992.

IS 0167-594X. JCP.

CP NETHERLANDS (Z1.542.651).

IM 9303.

ND ENTRY DATE: 930113.

21

AN 93076533. 93031.

AU Bourke-W. Milstein-D. Giura-R. Donghi-M. Luisetti-M. Rubin-A-H. Smith-L-J.

IN Pulmonary Division, Northwestern University, Chicago.

TI Lung cancer in young adults.

SO Chest. 1992 Dec. 102(6). P 1723-9.

JT CHEST.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE: To define the basis for the conflicting reports on the prognosis of lung cancer in young adults. DESIGN: Retrospective review of lung cancer patients between 1977 and 1988. SETTING: Medical centers in Chicago (Northwestern Memorial Hospital), northern Israel (Rambam Medical Center), and northern Italy (S. Anna and U. of Pavia Hospitals). PATIENTS: Patients were < or = 45 years of age with a diagnosis of primary lung cancer identified from tumor *registry* records, pathology reports, and hospital charts, plus a sample of patients > 45 years of age. MEASUREMENTS AND MAIN RESULTS: In Chicago, younger patients had a higher incidence of chest pain, fever, and neurologic symptoms at presentation than the older patients, and fewer were asymptomatic. They also had more lower lobe lesions on chest roentgenogram, a higher incidence of adenocarcinoma, more advanced disease, an increased likelihood of receiving chemotherapy, and reduced survival ($p < 0.03$). The poorer prognosis

was due to more advanced disease at presentation. In Israel, younger patients more frequently presented with stage I disease than the older patients and they had a higher incidence of adenocarcinoma, an increased likelihood of receiving treatment especially surgery, and better survival ($p < 0.02$). There were no differences between the two age groups for symptoms, symptom duration, and chest roentgenogram findings. Compared with the younger patients in Chicago and Israel, those from northern Italy had more squamous cell cancers and fewer adenocarcinomas, more commonly presented with stage I or II disease, received *radiation* therapy less frequently, and were given supportive care more often. Survival was low and comparable to that reported from Chicago. CONCLUSION: Differences exist in the clinical characteristics, pathologic findings, and prognosis of younger and older patients with lung cancer from the same region and of younger patients from different regions. The difference in prognosis is related in part to the stage of disease at presentation and the ability to undergo resectional surgery. Author-abstract.

MJ CARCINOMA-BRONCHOGENIC: epidemiology (ep), pathology (pa).
 LUNG-NEOPLASMS: epidemiology (ep), pathology (pa).
 MN ADENOCARCINOMA: epidemiology (ep), pathology (pa). ADULT.
 AGE-FACTORS. CARCINOMA-BRONCHOGENIC: therapy (th).
 CARCINOMA-SQUAMOUS-CELL: epidemiology (ep), pathology (pa). CHICAGO:
 epidemiology (ep). COMBINED-MODALITY-THERAPY. COMPARATIVE-STUDY.
 FEMALE. HUMAN. ISRAEL: epidemiology (ep). ITALY: epidemiology
 (ep). LUNG: pathology (pa). LUNG-NEOPLASMS: therapy (th). MALE.
 MIDDLE-AGE. NEOPLASM-STAGING. PROGNOSIS. SEX-FACTORS. SMOKING:
 epidemiology (ep). SURVIVAL-RATE.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1992.
 IS 0012-3692. D1C.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9303.
 ND ENTRY DATE: 921229.

22

AN 93075583. 93031.
 AU Parkin-D-M. Cardis-E. Masuyer-E. Friedl-H-P. Hansluwka-H.
 Bobev-D. Ivanov-E. Sinnaeve-J. Augustin-J. Plesko-I. et al.
 IN International Agency for Research on Cancer, Lyon, France.
 TI Childhood leukaemia following the Chernobyl accident: the European
 Childhood Leukaemia-Lymphoma Incidence Study (ECLIS).
 SO Eur-J-Cancer. 1992. 29A(1). P 87-95.
 JT EUROPEAN JOURNAL OF CANCER.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The objective of the European Childhood Leukaemia-Lymphoma Incidence
 Study (ECLIS) is to investigate trends in incidence rates of
 childhood leukaemia and lymphoma in Europe, in relation to the
 exposure to *radiation* which resulted from the accident at the

Chernobyl nuclear power plant in April 1986. In this first report, the incidence of leukaemia in children aged 0-14 is presented from cancer *registries* in 20 European countries for the period 1980-1988. Risk of leukaemia in 1987-1988 (8-32 months post-accident) relative to that before 1986, is compared with estimated average dose of *radiation* received by the population in 30 geographic areas. The observed changes in incidence do not relate to exposure. The period of follow-up is so far rather brief, and the study is planned to continue for at least 10 years. Author-abstract.

MJ ACCIDENTS. *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep). LYMPHOMA: epidemiology *(ep).NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-REACTORS.

MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. EUROPE: epidemiology (ep). FEMALE. HUMAN. INCIDENCE. INFANT. INFANT-NEWBORN. MALE. *RADIATION-DOSAGE.* RADIOACTIVE-FALLOUT: adverse-effects (ae). SUPPORT-NON-U-S-GOVT. UKRAINE: epidemiology (ep).

RN 0 -- Radioactive-Fallout.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0959-8049. ARV.

CP ENGLAND (Z1.542.363.300).

IM 9303.

ND ENTRY DATE: 921229.

23

AN 93056896. 93021.

AU Souma-T. Kasuya-S. Irisawa-T. Sakashita-I. Soga-J.

IN Department of Cardiothoracic Surgery, Tachikawa General Hospital, Niigata, Japan.

TI `Recurrent thymic carcinoid tumor--report of a case and review of the literature:.

SO Nippon-Kyobu-Geka-Gakkai-Zasshi. 1992 Oct. 40(10). P 1938-40.

JT NIPPON KYOBU GEKA GAKKAI ZASSHI. JOURNAL OF THE JAPANESE ASSOCIATION FOR THORACIC SURGERY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-OF-REPORTED-CASES (RRC).

LG Japanese (JA).

AB A case is presented of a 48-year-old male patient with thymic carcinoid tumor who was operated on twice and followed for 12 years. The original tumor was removed in 1979, and a recurrent tumor was removed 4 years later. Multiple metastases to the lungs, pleura and lymph nodes of the neck were found in 1988; chemotherapy (BAPP) and *radiation* therapy were not effective, and there was subsequent subcutaneous invasion of the anterior chest. We also discuss the 153 cases of thymic carcinoid tumor reported in the Japanese literature in the Niigata Carcinoid *Registry.* Author-abstract. 5 Refs.

MJ CARCINOID-TUMOR: surgery (su). NEOPLASM-RECURRENCE-LOCAL: surgery (su). THYMUS-NEOPLASMS: surgery (su).

MN CARCINOID-TUMOR: pathology (pa). CASE-REPORT. ENGLISH-ABSTRACT. HUMAN. MALE. MIDDLE-AGE. NEOPLASM-METASTASIS.

NEOPLASM-RECURRENCE-LOCAL: pathology (pa). THYMUS-NEOPLASMS:
pathology (pa).
YR 1992.
IS 0369-4739. IKE.
CP JAPAN (Z1.252.474.463).
IM 9302.
ND ENTRY DATE: 921215.

24

AN 93055671. 93021.
AU Olsen-J-H. Moller-H. Frentz-G.
IN Danish Cancer *Registry,* Danish Cancer Society, Copenhagen.
TI Malignant tumors in patients with psoriasis.
SO J-Am-Acad-Dermatol. 1992 Nov. 27(5 Pt 1). P 716-22.
JT JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND: There is strong epidemiologic evidence that psoriasis treatments may cause nonmelanoma skin cancer and possibly other types of cancer. OBJECTIVE: This study from Denmark reports the cancer incidence in 6910 patients with psoriasis discharged from the hospital from 1977 through 1987. METHODS: Patients were identified in the National Hospital Discharge Register and information on cases of cancer was obtained through the files of the Danish Cancer *Registry;* observed figures were compared with those expected on the basis of cancer incidence rates for the national population. RESULTS: A 2.5-fold increased risk was observed for nonmelanoma skin cancer in men and women, with no preponderance of any specific histologic subtype of cancer. In addition, excesses were seen of lung cancer in men (relative risk `RR = 1.4) and women (RR = 1.6), of cancer of the larynx and pharynx in men (RR = 2.8 and 3.9), and of colon and kidney cancer in women (RR = 1.6 and 2.3). CONCLUSION: The effect of cigarette smoking on the risk for noncutaneous cancer could not be assessed in this study; however, antipsoriatic treatment such as ionizing *radiation* and oral arsenicals must be considered as a possible cause of colon cancer, which has been observed in excess in two other studies of psoriatic patients. Author-abstract.
MJ NEOPLASMS: epidemiology (ep). PSORIASIS: complications (co).
MN ADULT. AGE-FACTORS. AGED. AGED-80-AND-OVER. COMPARATIVE-STUDY. DENMARK: epidemiology (ep). FEMALE. FOLLOW-UP-STUDIES. HUMAN. INCIDENCE. MALE. MEDICAL-RECORD-LINKAGE. MIDDLE-AGE. NEOPLASMS: complications (co). RISK-FACTORS. SEX-FACTORS.
SB Priority Journals (M).
YR 1992.
IS 0190-9622. HVG.
CP UNITED-STATES (Z1.107.567.875).
IM 9302.
ND ENTRY DATE: 921209.

25

AN 93052850. 93021.
 AU Kaldor-J-M. Day-N-E. Bell-J. Clarke-E-A. Langmark-F.
 Karjalainen-S. Band-P. Pedersen-D. Choi-W. Blair-V. et al.
 IN International Agency for Research on Cancer, Lyon, France.
 TI Lung cancer following Hodgkin's disease: a case-control study.
 SO Int-J-Cancer. 1992 Nov 11. 52(5). P 677-81.
 JT INTERNATIONAL JOURNAL OF CANCER.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB It is recognized that survivors of Hodgkin's disease are at a substantially increased risk of lung cancer. A collaborative group of population-based cancer *registries* and major treatment centers carried out a case-control study, in which 98 cases of lung cancer were identified in patients who had survived at least 1 year following a diagnosis of Hodgkin's disease. A total of 259 matched controls were selected from patients with Hodgkin's disease who did not develop subsequent lung cancer, and for both cases and controls detailed information was abstracted from medical records concerning stage and treatment of Hodgkin's disease. Patients treated with chemotherapy alone had about twice the risk of developing lung cancer than those treated by radiotherapy alone or both modalities. There was no increase in risk with cumulative number of cycles of chemotherapy. Among patients treated with radiotherapy alone, there was an increase in risk related to estimated *radiation* dose to the lung. There was also a strong association between cigarette smoking and the risk of lung cancer. The finding of a higher risk following chemotherapy than following radiotherapy was unexpected, but could not be explained by any identified methodological flaws. A plausible inference from the study is that all forms of Hodgkin's disease therapy are carcinogenic to the lung and that, in particular, chemotherapy is associated with an increase in risk which is at least comparable to and perhaps higher than the risk produced by radiotherapy. Author-abstract.
 MJ HODGKINS-DISEASE. LUNG-NEOPLASMS: etiology (et).
 NEOPLASMS-SECOND-PRIMARY.
 MN ANTINEOPLASTIC-AGENTS: adverse-effects (ae). CASE-CONTROL-STUDIES.
 HUMAN. RADIOTHERAPY: adverse-effects (ae). *REGISTRIES.* RISK.
 SMOKING. TIME-FACTORS.
 RN 0 -- Antineoplastic-Agents.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1992.
 IS 0020-7136. GQU.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9302.
 ND ENTRY DATE: 921211.

AN 93044741. 93021.
 AU Bochkov-N-P. Katosova-L-D.
 TI `Genetic monitoring of human population exposed to chemical and

radiation hazards:.

TT Geneticheskii monitoring populiatsii cheloveka pri real'nykh
khimicheskikh i radiatsionnykh nagruzkakh.

SO Vestn-Ross-Akad-Med-Nauk. 1992. (4). P 10-4.

JT VESTNIK ROSSIISKOI AKADEMII MEDITSINSKIKH NAUK.

PT JOURNAL-ARTICLE (ART).

LG Russian (RS).

AB It is impossible to protect human heredity from the ecological consequences of environmental pollution if there is no permanent control of hereditary variability in human populations, i.e. genetic monitoring. One of the urgent problems in genetic monitoring planning is the magnitude of representative samples necessary for establishing the significant mutation effect of environmental factors. The elevation of the mutation frequency can be determined either by the dynamics of the frequencies of hereditary pathology or by comparison of the frequencies in populations that differ in harmful factor exposures. Comparison of the effects evaluated by cytogenetic, epidemiological (registration of congenital malformation frequencies) and molecular-genetic methods in various population groups will make it possible to solve the problem of safety in the investigated regions. Author-abstract.

MJ ENVIRONMENTAL-POLLUTANTS: adverse-effects (ae). GENETIC-TECHNIQUES. MUTAGENS.

MN ABNORMALITIES-DRUG-INDUCED: epidemiology (ep).

ABNORMALITIES-RADIATION-INDUCED: epidemiology (ep). ACCIDENTS. ADULT. CHROMOSOME-ABERRATIONS. COMPARATIVE-STUDY. CYTOGENETICS. ENGLISH-ABSTRACT. FEMALE. HUMAN. INFANT-NEWBORN. MALE. MIDDLE-AGE. NUCLEAR-REACTORS. PREGNANCY. *REGISTRIES.* UKRAINE. USSR: epidemiology (ep).

RN 0 -- Environmental-Pollutants.

0 -- Mutagens.

YR 1992.

IS 0002-3027. BL9.

CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).

IM 9302.

ND ENTRY DATE: 921201.

27

AN 93040112. 93021.

AU Lie-S-O. Gustafsson-G.

IN Department of Pediatrics, University Hospital, Oslo, Norway.

TI Progress in the treatment of childhood leukaemias.

SO Ann-Med. 1992 Oct. 24(5). P 319-23.

JT ANNALS OF MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The Nordic Society for Pediatric Hematology and Oncology (NOPHO) has run a population-based *registry* on all cases of acute leukaemias in the Nordic countries since 1981. Data on close to 2000 children with these diagnoses are presented and used as a background for a general

discussion of progress in the therapy of these challenging conditions. Our material is unique in that it is population based. The results obtained are comparable to those obtained by all other major cooperative groups. Since January 1992, the treatment protocols for all types of acute leukaemias in childhood have been harmonized in the Nordic countries. Author-abstract.

MJ LEUKEMIA-LYMPHOCYTIC-ACUTE: therapy (th). LEUKEMIA-MYELOCYTIC-ACUTE: therapy (th).
MN ADOLESCENCE. ANTINEOPLASTIC-AGENTS-COMBINED: therapeutic-use (tu). BRAIN: *radiation-effects* (re). CHILD. CHILD-PRESCHOOL. COMPARATIVE-STUDY. DENMARK: epidemiology (ep). FEMALE. FINLAND: epidemiology (ep). HUMAN. ICELAND: epidemiology (ep). INFANT. LEUKEMIA-LYMPHOCYTIC-ACUTE: epidemiology (ep), mortality (mo). LEUKEMIA-MYELOCYTIC-ACUTE: epidemiology (ep), mortality (mo). MALE. MULTIVARIATE-ANALYSIS. NORWAY: epidemiology (ep). PROBABILITY. PROGNOSIS. RECURRENCE. *REGISTRIES.* RISK-FACTORS. SWEDEN: epidemiology (ep).
RN 0 -- Antineoplastic-Agents-Combined.
SB Priority Journals (M).
YR 1992.
IS 0785-3890. AMD.
CP FINLAND (Z1.542.808.380).
IM 9302.
ND ENTRY DATE: 921222.

28

AN 93037547. 93011.
AU Lindelof-B. Sigurgeirsson-B. Tegner-E. Larko-O. Berne-B.
IN Department of Dermatology, Karolinska Hospital, Stockholm, Sweden.
TI Comparison of the carcinogenic potential of trioxsalen bath PUVA and oral methoxsalen PUVA. A preliminary report.
SO Arch-Dermatol. 1992 Oct. 128(10). P 1341-4.
JT ARCHIVES OF DERMATOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND AND DESIGN--There is an increasing concern about the long-term carcinogenic effect of oral psoralen with long-wave UV *radiation* in the A range (PUVA). Most follow-up investigations indicate a definite risk of squamous cell carcinoma of the skin with long-term PUVA treatment. In a recently published study of 4799 Swedish patients who had received PUVA, it was noted that 833 patients who had received trioxsalen bath or oral trioxsalen did not show any increased risk of skin cancer in contrast to oral methoxsalen. This finding has been further investigated in this study. We compared four dermatologic university clinics in Sweden with regard to the carcinogenic potential of the PUVA regimen used. One clinic used trioxsalen bath PUVA exclusively and the other three used oral methoxsalen. Information on their PUVA-treated patients was collected and linked with information from the Swedish Cancer *Registry* to identify individuals with squamous cell carcinoma of the

skin. RESULTS--A total of 18 squamous cell carcinomas of the skin were reported in 2975 PUVA-treated patients until 1987. The expected number was 3.1. The center using bath PUVA only had no increased risk of squamous cell carcinoma of the skin in contrast to the three centers using oral methoxsalen-PUVA. The increased risk for male subjects from those centers varied from six to 13 times that in the general population, but for female subjects a significant increased relative risk was found only at one center. CONCLUSION--In this preliminary report, PUVA treatment with trioxsalen bath seems to be less carcinogenic than the oral dosage. However, differences in the patient populations might also have affected the outcome of the study. More information on this field is needed. Author-abstract.

MJ CARCINOMA-SQUAMOUS-CELL: chemically-induced (ci). METHOXSALEN: adverse-effects (ae).PUVA-THERAPY: adverse-effects (ae). SKIN-NEOPLASMS: chemically-induced (ci). TRIOXSALEN: adverse-effects (ae).

MN ADMINISTRATION-ORAL. ADULT. COMPARATIVE-STUDY. FEMALE. HUMAN. MALE. METHOXSALEN: administration-and-dosage (ad). *REGISTRIES.* SWEDEN. TRIOXSALEN: administration-and-dosage (ad).

RN 298-81-7 -- Methoxsalen.

3902-71-4 -- Trioxsalen.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0003-987X. 6WU.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921106.

29

AN 93035533. 93011.

AU Haeusler-M-C. Berghold-A. Schoell-W. Hofer-P. Schaffer-M.

IN Department of Obstetrics and Gynecology, Karl-Franzens University, Graz, Austria.

TI The influence of the post-Chernobyl fallout on birth defects and abortion rates in Austria.

SO Am-J-Obstet-Gynecol. 1992 Oct. 167(4 Pt 1). P 1025-31.

JT AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVES: We analyzed the influence of the radioactive fallout after the Chernobyl disaster on the rate and regional distribution of birth defects and abortion rates in southern Austria. STUDY DESIGN: During 1985 to 1989 a total of 66,743 births was monitored. Twelve sources provided data on 1695 cases of birth defects, 1579 of which were suitable for analysis. All cases were analyzed in terms of their calculated conception date and divided into three main groups according to their vulnerable phase of embryogenesis, spermatogenesis, and oogenesis. To study possible regional changes, the findings were plotted in 17 political subdistricts. The overall

abortion rate and the counseling frequency at termination clinics was determined. RESULTS: No significant changes in the incidence of birth defects, abortion rate, or counseling rate at pregnancy termination clinics were observed. CONCLUSIONS: Assessing the teratologic potential of low-dose *radiation* is difficult and requires adequate grouping of birth defects, sufficient baseline data, and highly reliable *registries.* Author-abstract.

MJ ABNORMALITIES: etiology (et). ABORTION-INDUCED.

RADIOACTIVE-FALLOUT: adverse-effects (ae).

MN ABNORMALITIES: epidemiology (ep). ABORTION: epidemiology (ep).

ARTIFACTS. AUSTRIA. COUNSELING. FEMALE. HUMAN. INCIDENCE.

INFANT-NEWBORN. PREGNANCY. *REGISTRIES.* RISK-FACTORS.

SUPPORT-NON-U-S-GOVT. SYRIA. USSR.

RN 0 -- Radioactive-Fallout.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0002-9378. 3NI.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921117.

30

AN 93035253. 93011.

AU Lie-R-T. Irgens-L-M. Skjaerven-R. Reitan-J-B. Strand-P. Strand-T.

IN Medical Birth *Registry* of Norway, University of Bergen, Norway.

TI Birth defects in Norway by levels of external and food-based exposure to *radiation* from Chernobyl.

SO Am-J-Epidemiol. 1992 Aug 15. 136(4). P 377-88.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB In Norway, external doses of *radiation* resulting from fallout from the Chernobyl nuclear accident were estimated from detailed measurements, including soil deposition patterns. Internal doses were estimated from measurements of radioactive cesium in meat and milk supplies. The doses were calculated as average monthly doses for each of 454 municipalities during 36 consecutive months after the accident in spring 1986. Prospectively collected data on all newborns listed in the Medical Birth *Registry* of Norway who were conceived in the period May 1983-April 1989 were used to assess possible dose-response relations between estimated external and food-based exposures and congenital malformations and some other conditions. A positive association was observed between total *radiation* dose (external plus food-based) and hydrocephaly, while a negative association was observed for Down's syndrome. However, an important conclusion of the study was that no associations were found for conditions previously reported to be associated with *radiation,* i.e., small head circumference, congenital cataracts, anencephaly,

spina bifida, and low birth weight. Potential sources of bias, including exposure misclassification and incomplete ascertainment of cases, are discussed. Author-abstract.

MJ *ABNORMALITIES-RADIATION-INDUCED:* epidemiology (ep). ACCIDENTS. ENVIRONMENTAL-EXPOSURE: adverse-effects (ae). FOOD-CONTAMINATION-RADIOACTIVE. NUCLEAR-REACTORS.
MN *ABNORMALITIES-RADIATION-INDUCED:* etiology (et). *DOSE-RESPONSE-RELATIONSHIP-RADIATION.* DOWN-SYNDROME: epidemiology (ep). ENVIRONMENTAL-EXPOSURE: analysis (an). FEMALE. FOOD-CONTAMINATION-RADIOACTIVE: analysis (an). HUMAN. HYDROCEPHALUS: epidemiology (ep), etiology (et). INFANT-NEWBORN. MALE. NORWAY: epidemiology (ep). SUPPORT-NON-U-S-GOVT. UKRAINE.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0002-9262. 3H3.
CP UNITED-STATES (Z1.107.567.875).
IM 9301.
ND ENTRY DATE: 921106.

31

AN 93028180. 93011.
AU Garbe-C. Orfanos-C-E.
IN Department of Dermatology, Free University of Berlin, Germany.
TI Epidemiology of malignant melanoma in central Europe: risk factors and prognostic predictors. Results of the Central Malignant Melanoma *Registry* of the German Dermatological Society.
SO Pigment-Cell-Res. 1992. Suppl 2. P 285-94.
JT PIGMENT CELL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The Central Malignant Melanoma *Registry* (CMMR) of the German Dermatological Society was established in 1983, and 7789 cutaneous malignant melanomas (CMM) were registered by 35 dermatological departments in Germany, Austria and Switzerland until the end of 1989. Population-based incidence rates, risk factors for developing CMM and prognostic parameters for predicting the final outcome were investigated in separate multicenter studies performed by the CMMR. Among the 7789 CMM registered, there was a preponderance of females (57.7%) versus males (42.3%). The age distribution peaked in the 5th and 6th decade of life for both sexes with a mean age of 52 years. The mean detection age was 50 years for superficial spreading melanoma, 53 for nodular melanoma, and 65 for lentigo maligna melanoma. Mean tumor thickness decreased from 2 mm in 1983 to 1.5 mm in 1989, indicating better CMM-awareness of the population and the medical community in this area. 90% of the patients presented with clinical stage I CMM without detectable metastases at first diagnosis. The incidence of CMM in Berlin (West) was assessed based on 960 cases diagnosed between 1980 and 1986. The incidence increased by 49% between 1980-81 and 1985-86, and the age standardized-incidence rate (European standard population) was 9.8

for males and 7.8 for females per 100,000 inhabitants and year in 1985-86. Mortality rates decreased in this period from 3.5 to 2.6 for males and slightly increased for females from 1.2 to 1.6 per 100,000 inhabitants and year. A case control study on the relative risk (RR) for developing CMM revealed the total number of melanocytic nevi (MCN) to be the strongest risk predictor (15x -50x increased RR), followed by the presence of dysplastic MCN (7x increased RR) and the skin type I (2x increased RR). Interestingly, no differences between CMM-cases and controls were found with respect to the history of sunburns or other parameters of sun exposure in this study. Multivariate analysis of 5093 stage I CMM-patients from four departments with long-term follow-up revealed that tumor thickness is the strongest predictor of survival with an almost linear correlation to the risk of death for tumor thickness up to 6 mm with no further increase in mortality for higher tumor thickness. The best classification of tumor thickness for survival prediction was less than or equal to 1 mm, 1.01-2 mm, 2.01-4 mm and greater than 4 mm in our data set on 5093 patients.(ABSTRACT TRUNCATED AT 400 WORDS).

Author-abstract.

MJ MELANOMA: epidemiology (ep). SKIN-NEOPLASMS: epidemiology (ep).
 MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. AUSTRIA: epidemiology (ep). BERLIN: epidemiology (ep). FEMALE. GERMANY-EAST: epidemiology (ep). GERMANY-WEST: epidemiology (ep). HAIR-COLOR. HUMAN. INCIDENCE. MALE. MELANOMA: mortality (mo), pathology (pa). MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep), etiology (et). NEVUS-PIGMENTED: epidemiology (ep). OCCUPATIONAL-DISEASES: epidemiology (ep), etiology(et). PROGNOSIS. *REGISTRIES.* RISK. RISK-FACTORS. SCANDINAVIA: epidemiology (ep). SEX-FACTORS. SKIN-NEOPLASMS: mortality (mo), pathology (pa). SUNLIGHT: adverse-effects (ae). SURVIVAL-RATE. SWITZERLAND: epidemiology (ep).
 SB Priority Journals (M).
 YR 1992.
 IS 0893-5785. PIG.
 CP DENMARK (Z1.542.808.224).
 IM 9301.
 ND ENTRY DATE: 921113.

32

AN 93014974. 93011.
 AU Marshall-D.
 TI 1992 National *Registry* of *Radiation* Protection Technologists Arthur F. Humm, Jr., Memorial Award presented to H. Wade Patterson.
 SO Health-Phys. 1992 Nov. 63(5). P 499-500.
 JT HEALTH PHYSICS.
 PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ AWARDS-AND-PRIZES. HEALTH-PHYSICS: history (hi).
 MN HISTORY-OF-MEDICINE-20TH-CENT. PORTRAITS. *RADIATION-PROTECTION.*

SOCIETIES-SCIENTIFIC. UNITED-STATES.

PN Humm-A-F Jr. Patterson-H-W.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 9301.

ND ENTRY DATE: 921119.

33

AN 93008066. 93011.

AU Oi-S. Matsumoto-S.

IN Department of Neurosurgery, Kobe University, School of Medicine,
Japan.

TI Controversy pertaining to therapeutic modalities for tumors of the
pineal region: a worldwide survey of different patient populations.

SO Childs-Nerv-Syst. 1992 Sep. 8(6). P 332-6.

JT CHILDS NERVOUS SYSTEM.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The management of tumors of the pineal region differs between Western countries and Japan. This paper reports on a worldwide survey of individual experience and regimens for treating pineal region tumors in different patient populations. Fifteen pediatric neurosurgeons from nine different countries participated in the survey, and a total of 408 pineal region tumors were evaluated. Determination of tumor histology as an initial procedure was strongly supported by the majority of neurosurgeons in North and Central America and Europe (group A), whereas all but one from Asia and Egypt (group B) emphasized initial application of the *radiation* test. The analysis of patient populations clearly revealed racial differences in tumor type which explain this discrepancy. Germinoma, the most radiosensitive tumor, constituted 43-70% (mean: 53.7%) of tumors in group B, followed by teratoma, pineoblastoma, and others, whereas in group A the incidence of germinoma was only 21-44% (mean: 34.7%), followed by a variety of tumors, such as astrocytoma, pineoblastoma, etc. The age distribution among intracranial germ cell tumors (GCT) obtained from data from the Brain Tumor *Registry* in Japan also demonstrated clear differences in the incidence of tumor types in different age groups in Japan: while germinoma constituted 70-84% of GCT in patients between the ages of 15 and 35 years, the incidence was much lower before 15 years and after 35 years, being 24% of tumors under 4 years and 34% of tumors after 40 years of age. The therapeutic regimen for pineal region tumors should depend on the patient population concerned, because of the differences relating to race and age distribution. Author-abstract.

MJ BRAIN-NEOPLASMS: therapy (th). PINEAL-BODY.

MN ADOLESCENCE. ADULT. ANTINEOPLASTIC-AGENTS-COMBINED: therapeutic-use (tu). BRAIN-NEOPLASMS: classification (cl). CHILD.

CHILD-PRESCHOOL. COMBINED-MODALITY-THERAPY. HEALTH-SURVEYS. HUMAN.

INFANT. INTERNATIONAL-COOPERATION. PINEALOMA: pathology (pa),
radiotherapy (rt), surgery (su). SUPPORT-NON-U-S-GOVT.
TUMOR-MARKERS-BIOLOGICAL: analysis (an).
RN 0 -- Antineoplastic-Agents-Combined.
0 -- Tumor-Markers-Biological.
SB Priority Journals (M).
YR 1992.
IS 0256-7040. CNV.
CP GERMANY (Z1.542.315).
IM 9301.
ND ENTRY DATE: 921123.

34

AN 92394817. 92000.
AU Travis-L-B. Kathren-R-L. Boice-J-D Jr.
IN *Radiation* Epidemiology Branch, National Cancer Institute, National
Institutes of Health, U.S. Department of Health and Human Services,
Rockville, MD 20852.
TI Cancer risk following exposure to Thorotrast: overview in relation to
a case report.
SO Health-Phys. 1992 Jul. 63(1). P 89-97.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Radioactive measurements and histopathologic findings are described
in a patient administered Thorotrast, a radiographic contrast agent,
36 y prior to death and compared with cancer risks noted in
epidemiologic studies. This person designated as U.S. Uranium
Registry (USUR) Case 1001: had prearranged for donation of her body
to the USUR and the National Cancer Institute for study. Elevated
levels of radioactivity were noted in those organs in which excess
cancers have been reported in epidemiologic surveys of
Thorotrast-exposed subjects. Hepatic tissue in USUR Case 1001 was
estimated to have received an average lifetime absorbed dose of 16.2
Gy, based on radiochemical analyses, consistent with the high risks
for liver tumors reported in all studied populations. Thorotrast was
present throughout the bone marrow of USUR Case 1001, who died
secondary to complications of refractory anemia with excess blasts
(RAEB). Elevated risks for acute myeloid leukemia have been noted in
Thorotrast patients, and more recently, cases of RAEB and RAEB in
transformation have been reported. The thorium decay series includes
the bone-seeking radionuclides 224Ra and 228Ra, which have been
associated with high risks for osteosarcomas, although the
association between Thorotrast and bone cancer is not as convincing.
The skeleton of USUR Case 1001, however, contained significant levels
of radioactivity. Other tissues evaluated in USUR Case 1001 included
lung, eye, kidney, and breast, which did not contain elevated levels
of radioactivity. Author-abstract. 44 Refs.
MJ CONTRAST-MEDIA: adverse-effects (ae). *NEOPLASMS-RADIATION-INDUCED: *
etiology (et). THORIUM-DIOXIDE: adverse-effects (ae).

MN AGED. CASE-REPORT. FEMALE. HUMAN. LEUKEMIA-MYELOID: etiology (et). *LEUKEMIA-RADIATION-INDUCED:* etiology (et). LIVER-NEOPLASMS: etiology (et). RISK. SUPPORT-U-S-GOVT-NON-P-H-S. TIME-FACTORS.
RN 0 -- Contrast-Media.
1314-20-1 -- Thorium-Dioxide.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921015.

35

AN 92394816. 92000.
AU Kathren-R-L. Hill-R-L.
IN U.S. Transuranium and Uranium *Registries,* Washington State University, Richland 99352.
TI Distribution and dosimetry of Thorotrast in USUR case 1001.
SO Health-Phys. 1992 Jul. 63(1). P 72-88.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The distribution of radioactivity and the associated doses were evaluated postmortem for USUR Case 1001, a female who had been injected with Thorotrast some 36 y prior to death. The distribution was determined for four nuclides: ²³²Th and its decay products, ²²⁸Ra and ²²⁸Th; and ²³⁰Th, a contaminant associated with Thorotrast. More than 90% of the activity was associated with the reticuloendothelial system. Approximately 32% of the total activity was found in the total skeleton (mineral bone and bone marrow), which is somewhat higher than expected from the literature. The 44% found in the liver and 12% in the spleen were somewhat lower than expected. This difference may be attributable, in part, to the initial deposition as influenced by colloidal particle size and to the *radiation-induced* hyposplenism, splenic atrophy, and slight hepatic atrophy observed at autopsy. In addition, roughly 3% of the activity was found in the Thorotrastoma and surrounding carotid artery tissue. Estimated lifetime absorbed doses from the ²³²Th series were 15 Gy to the liver, 121 Gy to the spleen, 4 Gy to the skeleton, and 16 Gy to the Thorotrastoma. Comparable dose equivalents to these tissues are 300, 2420, 80, and 320 Sv, respectively, assuming a quality factor of 20 for alpha irradiation. Author-abstract.
MJ CONTRAST-MEDIA. THORIUM-DIOXIDE: pharmacokinetics (pk).
MN AGED. BONE-AND-BONES: metabolism (me). CASE-REPORT. FEMALE. HUMAN. RADIOMETRY: methods (mt). SUPPORT-U-S-GOVT-NON-P-H-S. THORIUM-DIOXIDE: administration-and-dosage (ad). TIME-FACTORS. TISSUE-DISTRIBUTION.
RN 0 -- Contrast-Media.
1314-20-1 -- Thorium-Dioxide.
SB Priority Journals (M). Cancer Journals (X).

YR 1992.
IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921015.

36

AN 92393482. 92000.
AU Kolb-H-J. Guenther-W. Duell-T. Socie-G. Schaeffer-E. Holler-E.
Schumm-M. Horowitz-M-M. Gale-R-P. Flidner-T-M.
IN GSF-Forschungszentrum fuer Umwelt und Gesundheit, Universitaet
Munchen, Germany.
TI Cancer after bone marrow transplantation. IBMTR and EBMT/EULEP Study
Group on Late Effects.
SO Bone-Marrow-Transplant. 1992. 10 Suppl 1. P 135-8.
JT BONE MARROW TRANSPLANTATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Cancer may be serious late effect of marrow transplantation.
Radiation, chemotherapy, immunosuppression and the original disease
for which transplantation was performed may predispose to the
development of cancer. 116 of 9732 patients reported to the IBMTR
(International Bone Marrow Transplant *Registry)* have developed a new
malignancy. Late effects were evaluated by the EBMT-EULEP (European
Bone Marrow Transplant-European Late Effect Project) Late Effect
Study Group in 147 patients surviving 6 years and 79 patients
surviving more than 10 years. New malignancies developed in 11 of
these patients. Lymphomas and leukemia comprised 73 cases reported
to the IBMTR and one case reported to the EBMT-EULEP study. Tumors
of the skin, oropharynx, vulva vagina and cervix prevailed in 41
patients with solid tumors. The distribution of malignancies is
similar to that observed in organ transplant patients not given
radiation or chemotherapy and suggests immunosuppression as a major
contributory factor. In dogs the incidence of malignancies was
studied after either chemotherapy or total body *radiation* in various
regimens and marrow transplantation. Both chemotherapy and *radiation*
shortened tumor-free survival in comparison to untreated dogs.
Higher doses, larger fractions and shorter treatment schedules
enhanced earlier tumor development. Soft tissue sarcomas and thyroid
carcinoma were most frequent in treated, mammary carcinoma in
untreated dogs. In treated dogs deaths from cancer were observed
starting at the age of 5 years as compared to untreated dogs at the
age of 9 years. The data from animal experiments indicate that the
incidence of solid tumors in marrow transplant patients may still
rise in the coming decades. Author-abstract.
MJ BONE-MARROW-TRANSPLANTATION: adverse-effects (ae). NEOPLASMS:
etiology (et).
MN ANIMAL. ANTINEOPLASTIC-AGENTS: adverse-effects (ae). DOGS. FEMALE.
HUMAN. IMMUNOSUPPRESSION: adverse-effects (ae). MALE. NEOPLASMS:
surgery (su). *NEOPLASMS-RADIATION-INDUCED:* etiology (et).

NEOPLASMS-SECOND-PRIMARY: etiology (et). TIME-FACTORS.
RN 0 -- Antineoplastic-Agents.
SB Priority Journals (M).
YR 1992.
IS 0268-3369. BON.
CP ENGLAND (Z1.542.363.300).
IM 9212.
ND ENTRY DATE: 921015.

37

AN 92382085. 92000.
TI Survival rate and risk factors for patients with retinoblastoma in Japan. The Committee for the National *Registry* of Retinoblastoma.
SO Jpn-J-Ophthalmol. 1992. 36(2). P 121-31.
JT JAPANESE JOURNAL OF OPHTHALMOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Clinical, pathological and follow-up data on the 1,147 cases of retinoblastoma registered in Japan from 1975 to 1982 were statistically analyzed. The cumulative survival rate of the total 1,147 cases was 93.0% at 5 years and 90.3% at 10 years, calculated by the Kaplan-Meier method. The survival rate for the 757 unilateral cases was 93.3% at 5 years and 92.3% at 10 years. For the 390 bilateral cases, however, the rate was 92.2% at 5 years and 86.7% at 10 years. The Cox multivariate analysis indicated that, among the various clinical and pathological findings in the patients, extraocular invasion by the tumor was the most significant risk factor which is predictive of death due to tumor. The survival rate for patients with extraocular invasion was significantly better in cases undergoing subsequent local *radiation* and/or systemic chemotherapy than in cases without such aftercare. The cumulative incidence rate of second neoplasms in 409 cases of hereditary retinoblastoma was 4.8% at 10 years, 9.8% at 15 years and 15.7% at 20 years. The occurrence of a second neoplasm was the main cause of death in the hereditary cases 10 years after the first onset.
Author-abstract.
MJ EYE-NEOPLASMS: mortality (mo). RETINOBLASTOMA: mortality (mo).
MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. EYE-ENUCLEATION.
EYE-NEOPLASMS: epidemiology (ep), pathology (pa), therapy (th).
HUMAN. INCIDENCE. INFANT. INFANT-NEWBORN. JAPAN: epidemiology (ep). NEOPLASMS-SECOND-PRIMARY: epidemiology (ep). PROGNOSIS.
REGISTRIES. RETINOBLASTOMA: epidemiology (ep), pathology (pa), therapy (th). RISK-FACTORS. SURVIVAL-RATE.
SB Priority Journals (M).
YR 1992.
IS 0021-5155. KN1.
CP JAPAN (Z1.252.474.463).
IM 9212.
ND ENTRY DATE: 921001.

AN 92381743. 92000.

AU Travis-L-B. Curtis-R-E. Hankey-B-F. Fraumeni-J-F Jr.

IN Epidemiology and Biostatistics Program, National Cancer Institute,
National Institutes of Health, Bethesda, MD 20892.

TI Second cancers in patients with chronic lymphocytic leukemia.

SO J-Natl-Cancer-Inst. 1992 Sep 16. 84(18). P 1422-7.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB BACKGROUND: Reports to date have provided widely divergent estimates of the risk of second malignant neoplasms in patients with chronic lymphocytic leukemia (CLL), ranging from cancer deficits to excesses of twofold to threefold. PURPOSE: Our purpose was to estimate the risk of second primary cancers following CLL, utilizing population-based tumor *registries,* and to determine whether site-specific excesses might be associated with type of initial treatment for CLL. METHODS: We analyzed data for 9456 patients diagnosed with CLL as a first primary cancer between 1973 and 1988, who were reported to one of nine tumor *registries* participating in the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program and who survived 2 or more months. SEER files were searched for invasive primary malignancies that developed at least 2 months after the initial CLL diagnosis. RESULTS: Compared with the general population, CLL patients demonstrated a significantly increased risk of developing all second cancers (840 observed; observed-to-expected ratio $O/E = 1.28$; 95% confidence interval $CI = 1.19-1.37$). Significant excesses were noted for cancers of the lung ($O/E = 1.90$), brain ($O/E = 1.98$), and eye (intraocular melanoma) ($O/E = 3.97$) as well as malignant melanoma ($O/E = 2.79$) and Hodgkin's disease ($O/E = 7.69$). Cancer risk, which did not vary according to initial treatment category, was also constant across all time intervals after CLL diagnosis. CONCLUSION: CLL patients are at a significantly increased risk of developing a second malignant neoplasm. The pattern of cancer excesses suggests a susceptibility state permitting the development of selected second malignancies in patients with CLL, perhaps because of shared etiologic factors, immunologic impairment, and/or other influences. Although our results do not suggest a strong treatment effect, more detailed studies of second tumors in CLL are needed to investigate the role of *radiation* therapy and chemotherapy. Author-abstract.

MJ HODGKINS-DISEASE: etiology (et). LEUKEMIA-LYMPHOCYTIC-CHRONIC: therapy (th). LUNG-NEOPLASMS: epidemiology (ep). MELANOMA: epidemiology (ep). NEOPLASMS-SECOND-PRIMARY: epidemiology (ep). SKIN-NEOPLASMS: epidemiology (ep).

MN AGED. FEMALE. HUMAN. MALE. MIDDLE-AGE. POPULATION-SURVEILLANCE. *REGISTRIES.* RISK. SEX-FACTORS. UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0027-8874. J9J.

CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 920928.

39

AN 92362538. 92000.
AU Aul-C. Gattermann-N. Germing-U. Runde-V. Heyll-A.
IN Abteilung fur Hamatologie, Universitat Dusseldorf.
TI `Myelodysplastic syndromes. The epidemiological and etiological aspects:.
TT Myelodysplastische Syndrome. Epidemiologische und atiologische Aspekte.
SO Dtsch-Med-Wochenschr. 1992 Aug 14. 117(33). P 1223-31.
JT DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.
PT JOURNAL-ARTICLE (ART).
LG German (GE).
AB From a total of 18,416 bone-marrow biopsy reports entered into the Dusseldorf Bone Marrow *Registry* between 1975 and 1990 those of patients diagnosed as having preleukaemia, myeloid dysplasia, panmyelopathy with hypercellular bone marrow, refractory anaemia, sideroblastic anaemia or smoldering leukaemia were reanalyzed together with patient-data. If the diagnosis of myelodysplastic syndrome (MDS) was confirmed, the original blood and bone-marrow smear was re-examined and classified, 584 cases in all (3.2%). During the same period acute myeloid leukaemia had been diagnosed in 506 patients (2.8%). The average annual incidence of MDS in the Dusseldorf area was 3.65 per 100,000 inhabitants. Over 80% of cases occurred from the age of 60 years, while 7% were younger than 50 years. The sex ratio was the same in all subgroups of MDS, except chronic myelomonocytic leukaemia (male:female ratio 1:1.57). 31 patients (5.3%) had received ionizing *radiation* and/or cytostatic or immunosuppressive treatment for various underlying diseases before MDS had been diagnosed (secondary MDS). Preceding occupational contact with organic solvents could not be excluded with certainty in 12 patients. These data suggest that MDS is a relatively frequent disease of hematopoiesis among the older age groups. The proportion of secondary (treatment-induced) forms is small and does not explain the recently observed increased incidence. Author-abstract.
MJ MYELODYSPLASTIC-SYNDROMES: epidemiology (ep).
MN AGE-FACTORS. ENGLISH-ABSTRACT. GERMANY-WEST: epidemiology (ep). HUMAN. INCIDENCE. MYELODYSPLASTIC-SYNDROMES: diagnosis (di), etiology (et), genetics (ge). *REGISTRIES:* statistics-and-numerical-data (sn). SEX-FACTORS.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0012-0472. ECL.
CP GERMANY (Z1.542.315).
IM 9211.
ND ENTRY DATE: 920916.

AN 92356393. 92000.

AU Andersson-M. Storm-H-H.

TI Cancer incidence among Danish Thorotrast-exposed patients.

SO J-Natl-Cancer-Inst. 1992 Sep 2. 84(17). P 1318-25.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB BACKGROUND: Studies of groups of patients given injections of the alpha-emitting x-ray contrast medium Thorotrast may provide information on human alpha-ray carcinogenesis. PURPOSE: We re-established a formerly identified cohort of neurological patients receiving injections of Thorotrast for cerebral arteriography and assessed their incidence of cancer. METHODS: Using the national population register, the Danish Cancer *Registry,* and other registers, we determined the incidence of cancer among Thorotrast-injected patients. Incidence ratios were standardized to the general population and computed for different cancer sites. RESULTS: The cumulative risk for cancer at all sites (excluding brain tumors where the standardized incidence ratio `SIR: was 28) reached 86% 50 years after Thorotrast injection. SIR was greatly elevated at all sites except the brain and CNS (3.3, 95% confidence interval = 3.0-3.7), mainly because of liver cancers (SIR = 126) as well as leukemia (SIR = 10) for which a relationship was found between the time since injection and the estimated dose (but not the age at injection). Other sites with significantly increased risks of cancer included the gallbladder and extrahepatic bile ducts (SIR = 14), peritoneum (SIR = 8.6), sites of multiple myeloma (SIR = 4.6), metastatic sites (SIR = 12), and unspecified sites (SIR = 11). Cancers of the lung and breast also occurred in significant excess, but no relationship between SIR and volume of injected Thorotrast or time since injection was observed. Cancer risk was increased at most other sites, although this increase was not statistically significant. CONCLUSION: Alpha *radiation* may account for the increased risk of tumors of the liver, gallbladder, and peritoneum as well as leukemia and multiple myeloma, whereas confounding factors most probably contribute to the increased risks at other sites. Author-abstract.

MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). THORIUM-DIOXIDE: adverse-effects (ae).

MN ADULT. AGED. ANGIOGRAPHY. BRAIN-NEOPLASMS: epidemiology (ep). COHORT-STUDIES. DENMARK: epidemiology (ep). FEMALE. FOLLOW-UP-STUDIES. GALLBLADDER-NEOPLASMS: epidemiology (ep). HUMAN. INCIDENCE. *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep). LIVER-NEOPLASMS: epidemiology (ep). MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* etiology (et). *RADIATION-DOSAGE.* *REGISTRIES.* SUPPORT-NON-U-S-GOVT. THORIUM-DIOXIDE: administration-and-dosage (ad).

RN 1314-20-1 -- Thorium-Dioxide.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0027-8874. J9J.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920910.

41

AN 92349455. 92000.
AU Storm-H-H. Andersson-M. Boice-J-D Jr. Blettner-M. Stovall-M.
Mouridsen-H-T. Dombernowsky-P. Rose-C. Jacobsen-A. Pedersen-M.
IN Danish Cancer Registry, Institute of Cancer Epidemiology, Danish
Cancer Society, Copenhagen.
TI Adjuvant radiotherapy and risk of contralateral breast cancer.
SO J-Natl-Cancer-Inst. 1992 Aug 19. 84(16). P 1245-50.
JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB BACKGROUND: The risk of contralateral breast cancer is increased
twofold to fivefold for breast cancer patients. A *registry-based*
cohort study in Denmark suggested that *radiation* treatment of the
first breast cancer might increase the risk for contralateral breast
cancer among 10-year survivors. PURPOSE: Our goal was to assess the
role of *radiation* in the development of contralateral breast cancer.
METHODS: A nested case-control study was conducted in a cohort of
56,540 women in Denmark diagnosed with invasive breast cancer from
1943 through 1978. Case patients were 529 women who developed
contralateral breast cancer 8 or more years after first diagnosis.
Controls were women with breast cancer who did not develop
contralateral breast cancer. One control was matched to each case
patient on the basis of age, calendar year of initial breast cancer
diagnosis, and survival time. *Radiation* dose to the contralateral
breast was estimated for each patient on the basis of *radiation*
measurements and abstracted treatment information. The anatomical
position of each breast cancer was also abstracted from medical
records. RESULTS: Radiotherapy had been administered to 82.4% of
case patients and controls, and the mean *radiation* dose to the
contralateral breast was estimated to be 2.51 Gy. Radiotherapy did
not increase the overall risk of contralateral breast cancer
(relative risk = 1.04; 95% confidence interval = 0.74-1.46), and
there was no evidence that risk varied with *radiation* dose, time
since exposure, or age at exposure. The second tumors in case
patients were evenly distributed in the medial, lateral, and central
portions of the breast, a finding that argues against a causal role
of radiotherapy in tumorigenesis. CONCLUSIONS: The majority of women
in our series were perimenopausal or postmenopausal (53% total versus
38% premenopausal and 9% of unknown status) and received radiotherapy
at an age when the breast tissue appears least susceptible to the
carcinogenic effects of *radiation.* Based on a dose of 2.51 Gy and
estimates of *radiation* risk from other studies, a relative risk of
only 1.18 would have been expected for a population of women exposed
at an average age of 51 years. Thus, our data provide additional

evidence that there is little if any risk of *radiation-induced* breast cancer associated with exposure of breast tissue to low-dose *radiation* (e.g., from mammographic x rays or adjuvant radiotherapy) in later life. Author-abstract.

MJ BREAST-NEOPLASMS: etiology (et), radiotherapy (rt).

NEOPLASMS-RADIATION-INDUCED: etiology (et).

NEOPLASMS-SECOND-PRIMARY: etiology (et).

MN ADULT. AGE-FACTORS. CASE-CONTROL-STUDIES.

COMBINED-MODALITY-THERAPY. FEMALE. HUMAN. LOGISTIC-MODELS.

MENOPAUSE. MIDDLE-AGE. RADIOTHERAPY: adverse-effects (ae).

RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0027-8874. J9J.

CP UNITED-STATES (Z1.107.567.875).

IM 9211.

ND ENTRY DATE: 920901.

NO N01CP51057. GRANT: CP. INSTITUTE: NCI.

42

AN 92348232. 92000.

AU Lee-C-G. McCormick-B. Mazumdar-M. Vetto-J. Borgen-P-I.

IN Dept. of *Radiation* Oncology, Memorial Sloan-Kettering Cancer, New York, NY 10021.

TI Infiltrating breast carcinoma in patients age 30 years and younger: long term outcome for life, relapse, and second primary tumors.

SO Int-J-Radiat-Oncol-Biol-Phys. 1992. 23(5). P 969-75.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A retrospective study examining the influence of young age, defined as 30 years or less on the outcome of early-staged (American Joint Committee 1978-I, II) breast cancer was undertaken using patients treated between 1950 and 1970 to ensure a long follow-up period. Because of the era of treatment, radical mastectomy without systemic chemotherapy was the predominant treatment. Ninety-nine patients met study criteria, with a median follow-up of 11.4 years (range 0.5 to 41 years). The patient group was compared to patients of all ages, treated at Memorial Sloan-Kettering Cancer Center in 1960 (5 and 10 years) and to patients treated between 1940 and 1943 (30 year follow-up). At the 5, 10, and 30 year follow-up periods, patients in the young age group consistently had disease-specific survival 10-20% lower than their older counterparts. For young patients who survived their first cancer diagnosis, second primaries both in the contralateral breast and elsewhere, played a significant role in determining their subsequent life span. When compared to risks of second primary cancers in the National Cancer Institute's SEER (Surveillance, Epidemiology and End Results Program) Cancer *Registry* for all ages, the increased risk for very young breast cancer patients was significant ($p = 0.000$). With these two findings in

mind, treatment for young patients with breast cancer should focus not on local therapy options alone but on the increased risk of both systemic disease and of second primaries. Author-abstract.

MJ BREAST-NEOPLASMS: surgery (su). CARCINOMA-DUCTAL: surgery (su).
MASTECTOMY-RADICAL. NEOPLASMS-SECOND-PRIMARY: epidemiology (ep).
MN ADOLESCENCE. ADULT. AGE-FACTORS. BREAST-NEOPLASMS: epidemiology (ep), pathology (pa).CARCINOMA-DUCTAL: epidemiology (ep), pathology (pa). FEMALE. FOLLOW-UP-STUDIES. HUMAN. RETROSPECTIVE-STUDIES. SURVIVAL-RATE.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0360-3016. G97.
CP UNITED-STATES (Z1.107.567.875).
IM 9211.
ND ENTRY DATE: 920831.

43

AN 92343940. 92000.
AU Greenwald-H-P. Henke-C-J.
IN Sacramento Center, School of Public Administration, University of Southern California.
TI HMO membership, treatment, and mortality risk among prostatic cancer patients.
SO Am-J-Public-Health. 1992 Aug. 82(8). P 1099-104.
JT AMERICAN JOURNAL OF PUBLIC HEALTH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB OBJECTIVES. Treatment and mortality risk were compared between prostate cancer patients receiving care in fee-for-service settings and those receiving care in a health maintenance organization (HMO). METHODS. Two samples were obtained from a population-based tumor *registry.* Patients in the first sample (n = 201) were interviewed shortly after diagnosis to obtain data on income, education, overall health status, and expenditures for health status, and expenditures for health care. These data were combined with information from the tumor *registry* on cancer stage, age, treatment, place of residence, and source of care. Only tumor *registry* data were obtained for most patients in the second sample (n = 962). For both samples, survival time was monitored for up to 80 months. RESULTS. Multivariate analysis of data from the interviewed sample indicated that HMO patients were less likely to receive surgery but more likely to receive *radiation* therapy than were those in fee-for-service settings. Mortality risk was lower for the HMO patients than for those in fee-for-service plans. Findings based on the second sample were nearly identical. CONCLUSIONS. This study suggests that HMOs may offer important advantages to lower-income patients at risk for specific life-threatening diseases. Author-abstract.
MJ HEALTH-MAINTENANCE-ORGANIZATIONS. PROSTATIC-NEOPLASMS: mortality (mo).
MN AGED. COMPARATIVE-STUDY. FEES-MEDICAL. HUMAN. INCOME. MALE.

MODELS-STATISTICAL. NEOPLASM-STAGING. PROSTATIC-NEOPLASMS:
pathology (pa), therapy (th). RISK-FACTORS. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. SURVIVAL-ANALYSIS.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1992.

IS 0090-0036. 3XW.

CP UNITED-STATES (Z1.107.567.875).

IM 9210.

ND ENTRY DATE: 920827.

NO 5R18CA3256402. GRANT: CA. INSTITUTE: NCI.

44

AN 92333727. 92000.

AU Bortin-M-M. Horowitz-M-M. Gale-R-P. Barrett-A-J. Champlin-R-E.
Dicke-K-A. Gluckman-E. Kolb-H-J. Marmont-A-M. Mricic-M. et al.

IN International Bone Marrow Transplant *Registry,* Department of
Medicine, Medical College of Wisconsin, Milwaukee 53226.

TI Changing trends in allogeneic bone marrow transplantation for
leukemia in the 1980s.

SO JAMA. 1992 Aug 5. 268(5). P 607-12.

JT JAMA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To identify changes in practice and outcome of bone marrow
transplants for leukemia in the 1980s. DESIGN--Comparison of key
explanatory and outcome variables in five 2-year cohorts, from 1980
through 1981 to 1988 through 1989, using a large database of detailed
clinical information. PATIENTS--Recipients (7788) of bone marrow
transplants for acute lymphoblastic, acute myelogenous, or chronic
myelogenous leukemia reported to the International Bone Marrow
Transplant *Registry,* Milwaukee, Wis, by 185 transplant teams
worldwide. RESULTS--Linear increases occurred during the periods
1980 through 1981 to 1988 through 1989 as follows with 95% confidence
intervals: (1) transplants for chronic myelogenous leukemia from 14%
+/- 2% to 35% +/- 2%; (2) transplants from unrelated donors from 1%
+/- 1% to 7% +/- 1%; (3) preparative regimens without *radiation* from
3% +/- 1% to 30% +/- 2%; and (4) use of methotrexate plus
cyclosporine to prevent graft-vs-host disease from 2% +/- 1% to 55%
+/- 2%. Among recipients of human lymphocyte antigen-identical
sibling bone marrow, the 2-year probability of treatment-related
mortality decreased by 6% to 22%. The probability of relapse
decreased from 46% +/- 6% to 38% +/- 6% in intermediate leukemia but
did not change appreciably in early or advanced leukemia.
Probabilities of leukemia-free survival improved from 51% +/- 4% to
57% +/- 3% in early leukemia, from 28% +/- 4% to 36% +/- 5% in
intermediate leukemia, and from 12% +/- 4% to 18% +/- 5% in advanced
leukemia. A separate analysis of a homogenous population of patients
indicated that improvements in outcome in the 1980s were due to
improvements in transplant practice rather than improved patient
selection. CONCLUSIONS--Modest increases in leukemia-free survival

rates occurred after human lymphocyte antigen-identical sibling bone marrow transplants in the 1980s. Improvements were due primarily to reductions in treatment-related mortality with little or no change in relapse risk. More effective antileukemia strategies and continued reductions in treatment-related toxic effects are needed.

Author-abstract.

MJ BONE-MARROW-TRANSPLANTATION: trends (td). LEUKEMIA: surgery (su).
MN ADULT. BONE-MARROW-TRANSPLANTATION: mortality (mo).
CLINICAL-PROTOCOLS. CYTOMEGALIC-INCLUSION-DISEASE:
prevention-and-control (pc). GRAFT-VS-HOST-DISEASE:
prevention-and-control (pc). HUMAN. IMMUNOSUPPRESSION. LEUKEMIA:
mortality (mo). LEUKEMIA-LYMPHOCYTIC-ACUTE: surgery (su).
LEUKEMIA-MYELOCYTIC-ACUTE: surgery (su). LEUKEMIA-MYELOID-CHRONIC:
surgery (su). SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
TISSUE-DONORS: statistics-and-numerical-data (sn).
TRANSPLANTATION-HOMOLOGOUS: trends (td). TREATMENT-OUTCOME.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9210.
ND ENTRY DATE: 920818.
NO P01CA40053. GRANT: CA. INSTITUTE: NCI.

45

AN 92328054. 92000.
AU Blatt-J. Olshan-A. Gula-M-J. Dickman-P-S. Zaranek-B.
IN Department of Pediatrics, Children's Hospital of Pittsburgh,
Pennsylvania 15213.
TI Second malignancies in very-long-term survivors of childhood cancer.
SO Am-J-Med. 1992 Jul. 93(1). P 57-60.
JT AMERICAN JOURNAL OF MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB PURPOSE: Although most second malignancies are treatment related,
their occurrence also may be due to an underlying systemic disease or
chromosomal abnormalities shared by multiple organs in which they are
tumorigenic. We attempted to identify unusual tumor pairs that might
provide a clue to shared genetic etiologies. PATIENTS AND METHODS:
Medical records and tumor *registry* correspondence of 1,743 patients
(0 to 18 years at diagnosis) were reviewed. For those said to have
a second malignancy, biopsy and autopsy records and slides were
reviewed to confirm initial and secondary diagnoses. RESULTS: Two
hundred fifty-eight patients had follow-up of at least 10 years and
157 of at least 20 years. Second malignancies were identified in 14
patients. The estimated cumulative incidence of a second cancer was
approximately 1% within 10 years. At 20 years after diagnosis, the
actuarial estimate was 3%. Although most second cancers were likely
treatment related, several tumor pairs could not clearly be explained

on that basis, including thyroid carcinoma followed by an ovarian sarcoma, and acute lymphoblastic leukemia associated with renal leiomyosarcoma. Based on one case in this series and a review of the literature, associations between Wilms' tumor, abdominal *radiation,* and adenocarcinoma of the colon and hepatocellular carcinoma are suggested. CONCLUSIONS: We conclude that continued surveillance of very-long-term survivors of childhood cancer, which is usually accomplished by internists, family practitioners, and adult oncologists, may be one approach to defining the life-time incidence of second malignancies. In addition, although the yield is likely to be small, descriptions of unexpected tumor pairs may target families for studies of pleiotropic genetic abnormalities. Author-abstract.

MJ NEOPLASMS-SECOND-PRIMARY: epidemiology (ep).

MN ADOLESCENCE. BRAIN-NEOPLASMS: pathology (pa). CHILD.

CHILD-PRESCHOOL. COHORT-STUDIES. FOLLOW-UP-STUDIES. HUMAN.

INCIDENCE. INFANT. LEUKEMIA-LYMPHOCYTIC-ACUTE: pathology (pa).

NEUROBLASTOMA: pathology (pa). PENNSYLVANIA: epidemiology (ep).

REGISTRIES. SURVIVAL-RATE. TIME-FACTORS. WILMS-TUMOR: pathology (pa).

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0002-9343. 3JU.

CP UNITED-STATES (Z1.107.567.875).

IM 9210.

ND ENTRY DATE: 920811.

46

AN 92322261. 92000.

AU Andersson-M. Storm-H-H. Mouridsen-H-T.

IN Danish Cancer *Registry,* Copenhagen.

TI Carcinogenic effects of adjuvant tamoxifen treatment and radiotherapy for early breast cancer.

SO Acta-Oncol. 1992. 31(2). P 259-63.

JT ACTA ONCOLOGICA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The occurrence of new primary tumours among postmenopausal patients with primary breast cancer subsequent to adjuvant treatment in Denmark was assessed by linkage to the cancer *registry.* Following primary surgery, patients in low risk of recurrence (n = 1,828) received no further treatment while patients in high risk randomly received either adjuvant radiotherapy alone (n = 846) or radiotherapy + tamoxifen 30 mg daily for 48 weeks (n = 864). With a median follow-up of 8 years, the incidence of tumours in the contralateral breast was similar among tamoxifen-treated, and non-treated high-risk patients even after adjusting for tumours arising within the first year. The standardized incidence ratio for endometrial cancer was 1.9 (95% confidence interval 0.8-3.9) among tamoxifen treated, the cumulative incidence 1% compared to 0.3% among non-treated patients

(p = 0.11). The cumulative risk of non-lymphocytic leukaemia was 0.9% and 0.1% among irradiated and non-irradiated patients respectively (p = 0.4). Prolonged follow-up of tamoxifen-treated patients with regard to new tumours is recommended.

Author-abstract.

MJ BREAST-NEOPLASMS: therapy (th). ENDOMETRIAL-NEOPLASMS: etiology (et). *LEUKEMIA-RADIATION-INDUCED:* etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). NEOPLASMS-SECOND-PRIMARY: etiology (et). TAMOXIFEN: adverse-effects (ae).
MN BREAST-NEOPLASMS: etiology (et), pathology (pa). CHEMOTHERAPY-ADJUVANT: adverse-effects (ae). DENMARK. FEMALE. HUMAN. LEUKEMIA-MYELOCYTIC-ACUTE: etiology (et). LEUKEMIA-MYELOID-CHRONIC: etiology (et). *REGISTRIES.*
RN 10540-29-1 -- Tamoxifen.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0284-186X. AON.
CP SWEDEN (Z1.542.808.843).
IM 9210.
ND ENTRY DATE: 920810.

47

AN 92305163. 92000.
AU MacMahon-B.
IN Department of Epidemiology, Harvard School of Public Health, Boston, MA.
TI Leukemia clusters around nuclear facilities in Britain `comment: `see comments:.
CM Comment on: Cancer Causes Control 1992 May;3(3):283-8. Comment in: Cancer Causes Control 1992 Jul;3(4):393-4. Comment in: Cancer Causes Control 1992 Jul;3(4):395-6.
SO Cancer-Causes-Control. 1992 May. 3(3). P 283-8.
JT CANCER CAUSES AND CONTROL.
PT COMMENT (COM). JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
LG English (EN).
AB 24 Refs.
MJ CLUSTER-ANALYSIS. *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-REACTORS. POWER-PLANTS.
MN CHILD. CHILD-PRESCHOOL. ENGLAND: epidemiology (ep). EVALUATION-STUDIES. HUMAN. *LEUKEMIA-RADIATION-INDUCED:* etiology (et). *REGISTRIES.* RESEARCH-DESIGN: standards (st). RESIDENCE-CHARACTERISTICS. SCOTLAND: epidemiology (ep).
SB Priority Journals (M).
YR 1992.
IS 0957-5243. A5R.
CP ENGLAND (Z1.542.363.300).
IM 9210.
ND ENTRY DATE: 920730.

LAST REVISION DATE: 921018.

48

AN 92305160. 92000.
AU Michaelis-J. Keller-B. Haaf-G. Kaatsch-P.
IN Institut für Medizinische Statistik und Dokumentation, Mainz,
Germany.
TI Incidence of childhood malignancies in the vicinity of west German
nuclear power plants `see comments:.
CM Comment in: Cancer Causes Control 1992 May;3(3):283-8.
SO Cancer-Causes-Control. 1992 May. 3(3). P 255-63.
JT CANCER CAUSES AND CONTROL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The incidence of childhood malignancies in 20 areas surrounding major
nuclear installations is compared with the incidence in matched
control regions. The study is based on the *registry* of childhood
malignancies in the Federal Republic of Germany and includes 1,610
cases which were diagnosed before 15 years of age from 1980 to 1990.
The relative risk (RR) was 0.97 for all malignancies and 1.06 for
acute leukemia in all regions within a 15 km radius of an
installation. Increased RR was observed in subgroups for acute
leukemia before five years of age and for lymphomas, especially in
regions close to installations (less than 5 km) which started
operation before 1970. Most of this increase was attributable to an
unexpectedly low incidence in the control regions which could not be
explained by analyzing possible confounding factors. Using the same
control regions, a comparable and even more pronounced increase of
RRs was observed in regions where nuclear power plants have been
projected. Author-abstract.
MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-REACTORS.
POWER-PLANTS.
MN ADOLESCENCE. AGE-FACTORS. AIR-POLLUTION-RADIOACTIVE. BIRTH-ORDER.
BREAST-FEEDING. CASE-CONTROL-STUDIES. CHILD. CHILD-PRESCHOOL.
GERMANY-WEST: epidemiology (ep). HUMAN. INCIDENCE. INFANT.
INFANT-NEWBORN. MATCHED-PAIR-ANALYSIS. *NEOPLASMS-RADIATION-INDUCED:*
etiology (et). PARENTS. QUESTIONNAIRES. *REGISTRIES.*
RESIDENCE-CHARACTERISTICS. RISK-FACTORS. SUPPORT-NON-U-S-GOVT.
TOBACCO-SMOKE-POLLUTION: adverse-effects (ae).
SB Priority Journals (M).
YR 1992.
IS 0957-5243. A5R.
CP ENGLAND (Z1.542.363.300).
IM 9210.
ND ENTRY DATE: 920730.

49

AN 92301180. 92000.
AU Hall-P. Boice-J-D Jr. Berg-G. Bjelkengren-G. Ericsson-U-B.
Hallquist-A. Lidberg-M. Lundell-G. Mattsson-A. Tennvall-J. et

al.

IN Department of General Oncology, Karolinska Hospital, Stockholm, Sweden.

TI Leukaemia incidence after iodine-131 exposure.

SO Lancet. 1992 Jul 4. 340(8810). P 1-4.

JT LANCET.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Leukaemia is one of the most prominent late effects of exposure to ionising *radiation.* We have studied the incidence of leukaemia among 46,988 Swedish patients exposed to iodine-131 (131I) for diagnostic reasons or to treat hyperthyroidism or thyroid cancer. The observed number of leukaemias was compared with that expected based on incidence data from the general population. The mean absorbed dose to the bone marrow was estimated as 14 mGy (range 0.01-2.226). 195 leukaemias occurred more than 2 years after exposure, and the standardised incidence ratio (SIR) was 1.09 (95% confidence interval 0.94-1.25). Similar, but again not significantly, increased risks were seen for chronic lymphocytic leukaemia (CLL) (SIR = 1.08), a malignant condition not found to be increased after irradiation, and for non-CLL (SIR = 1.09). The risk of leukaemia did not vary by sex, age, time, or *radiation* dose from 131I. One reason for the absence of a *radiation* effect, other than chance, includes the possible lowering of risk when exposure is protracted over time as occurs with 131I. Excess leukaemia risks of more than 25% could thus be excluded with high assurance in this population of mainly adults. These results should be reassuring to patients exposed to 131I in medical practice and to most individuals exposed to the fall-out from the Chernobyl accident. Author-abstract.

MJ IODINE-RADIOISOTOPES: adverse-effects (ae).

LEUKEMIA-RADIATION-INDUCED: epidemiology (ep).

MN ADOLESCENCE. ADULT. AGED. BONE-MARROW: *radiation-effects* (re).

CHILD. CHILD-PRESCHOOL. *DOSE-RESPONSE-RELATIONSHIP-RADIATION.*

FEMALE. FOLLOW-UP-STUDIES. HALF-LIFE. HUMAN. HYPERTHYROIDISM: diagnosis (di), radiotherapy (rt). INCIDENCE. INFANT.

LEUKEMIA-RADIATION-INDUCED: etiology (et). MALE. MIDDLE-AGE.

RADIATION-DOSAGE. *REGISTRIES.* REGRESSION-ANALYSIS. RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S. SWEDEN: epidemiology (ep).

THYROID-NEOPLASMS: diagnosis (di), radiotherapy (rt). TIME-FACTORS.

RN 0 -- Iodine-Radioisotopes.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0023-7507. L0S.

CP ENGLAND (Z1.542.363.300).

IM 9209.

ND ENTRY DATE: 920723.

CLASS UPDATE: 92.

NO N01CP51034. GRANT: CP. INSTITUTE: NCI.

AN 92279070. 92000.

AU Schmidt-D. Harms-D. Leuschner-I.

IN Institute of Pathology, Christian Albrechts University, Kiel, FRG.

TI Malignant renal tumors of childhood.

SO Pathol-Res-Pract. 1992 Feb. 188(1-2). P 1-15.

JT PATHOLOGY, RESEARCH AND PRACTICE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The prognosis in nephroblastoma (Wilms' tumor) has been improved considerably by treatment protocols combining surgery, chemotherapy, *radiation* therapy, and, in some clinical trials, pre-operative chemotherapy. Cure is now achieved in most patients. All clinical trials have employed treatment strategies tailored to the individual risk of the patient, including the histological subtype of the tumor. In the National Wilms' Tumor Study (NWTs) of the United States these subtypes have been divided into two groups of tumors according to their "favorable" or "unfavorable" histology. At the Kiel Pediatric Tumor *Registry* we have devised a system which distinguishes three groups of tumors classified according to prognosis. The first group includes tumors with a favorable prognosis, even if only surgery is performed. These comprise congenital mesoblastic nephroma (CMN) and cystic, partially differentiated nephroblastoma (CPDN). The second group consists of tumors posing an intermediate risk, such as typical nephroblastoma and its histological variants characterized by variations in the relative proportions of the histological components. Fetal rhabdomyomatous nephroblastoma (FRN) is also included in this group. The third group comprises tumors of high risk such as anaplastic nephroblastoma, clear cell sarcoma of the kidney (CCSK), and malignant rhabdoid tumor of the kidney (MRTK). Since histological diagnosis plays a crucial role in the assignment of a patient to a particular type of treatment protocol, knowledge of the histological appearance of the various tumor types both with and without preoperative treatment is of utmost importance.

Author-abstract.

MJ KIDNEY-NEOPLASMS: pathology (pa).

MN ANTINEOPLASTIC-AGENTS: therapeutic-use (tu). CARCINOMA-RENAL-CELL: pathology (pa). CHILD. COMBINED-MODALITY-THERAPY.

DIAGNOSIS-DIFFERENTIAL. HUMAN. KIDNEY-NEOPLASMS: classification (cl), therapy (th). PREOPERATIVE-CARE: methods (mt). PROGNOSIS. RETROSPECTIVE-STUDIES. WILMS-TUMOR: pathology (pa).

RN 0 -- Antineoplastic-Agents.

SB Priority Journals (M).

YR 1992.

IS 0344-0338. PBZ.

CP GERMANY (Z1.542.315).

IM 9209.

ND ENTRY DATE: 920702.

AN 92266032. 92000.

AU Darby-S-C. Olsen-J-H. Doll-R. Thakrar-B. Brown-P-D. Storm-H-H.
Barlow-L. Langmark-F. Teppo-L. Tulinius-H.

IN Imperial Cancer Research Fund Cancer Epidemiology Unit, University of
Oxford, Radcliffe Infirmary, United Kingdom.

TI Trends in childhood leukaemia in the Nordic countries in relation to
fallout from atmospheric nuclear weapons testing.

SO BMJ. 1992 Apr 18. 304(6833). P 1005-9.

JT BMJ.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To obtain further information about the risks of childhood
leukaemia after exposure to ionising *radiation* at low doses and low
dose rates before or after birth or to the father's testes shortly
before conception. DESIGN--Observational study of trends in
incidence of childhood leukaemia in relation to estimated *radiation*
exposures due to fallout from atmospheric nuclear weapons testing
during the 1950s and 1960s. SETTING--Nordic countries.
SUBJECTS--Children aged under 15 years. MAIN OUTCOME
MEASURES--Incidence rates of leukaemia by age at diagnosis, sex,
country, and calendar year of diagnosis or year of birth; exposure
category; relation between leukaemia and exposure for children aged
0-14 and 0-4 separately. RESULTS--During the high fallout period the
average estimated dose equivalent to the fetal red bone marrow was
around 140 mu Sv and the average annual testicular dose 140 mu Sv.
There was little evidence of increased incidence of leukaemia among
children born in these years. Doses to the red bone marrow of a
child after birth were higher, and during the high exposure period
children would have been subjected to an additional dose equivalent
of around 1500 mu Sv, similar to doses received by children in
several parts of central and eastern Europe owing to the Chernobyl
accident and about 50% greater than the annual dose equivalent to the
red bone marrow of a child from natural *radiation.* leukaemia
incidence and red marrow dose was not related overall, but rates of
leukaemia in the high exposure period were slightly higher than in
the surrounding medium exposure period (relative risk for ages 0-14:
1.07, 95% confidence interval 1.00 to 1.14; for ages 0-4: 1.11, 1.00
to 1.24). CONCLUSIONS--Current predicted risks of childhood
leukaemia after exposure to *radiation* are not greatly underestimated
for low dose rate exposures. Author-abstract.

MJ *LEUKEMIA-RADIATION-INDUCED:* etiology (et). NUCLEAR-WARFARE.

RADIOACTIVE-FALLOUT: adverse-effects (ae).

MN ADOLESCENCE. AGE-FACTORS. BONE-MARROW: *radiation-effects* (re).

CHILD. CHILD-PRESCHOOL. FEMALE. FETUS: *radiation-effects* (re).

HUMAN. INFANT. INFANT-NEWBORN. *LEUKEMIA-RADIATION-INDUCED:*

epidemiology (ep). MALE. *REGISTRIES.* RISK-FACTORS. SCANDINAVIA:

epidemiology (ep). TESTIS: *radiation-effects* (re).

RN 0 -- Radioactive-Fallout.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).

YR 1992.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 9208.
ND ENTRY DATE: 920625.

52

AN 92245505. 92000.
AU Teshima-T. Inoue-T. Chatani-M. Hata-K. Hiyama-T. Ikeda-H.
Murayama-S.
IN Department of Radiology, Osaka University Medical School.
TI Incidence of other primary cancers in 1,569 patients with
pharyngolaryngeal cancer and treated with *radiation* therapy.
SO Strahlenther-Onkol. 1992 Apr. 168(4). P 213-8.
JT STRAHLENTHERAPIE UND ONKOLOGIE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB From January 1977 through December 1989, a total of 1,569 patients
with pharyngolaryngeal cancer (oropharynx: 240, nasopharynx: 221,
hypopharynx: 246, and larynx: 862) were treated at the Department of
Radiology, Osaka University Hospital and the Department of *Radiation*
Therapy, The Center for Adult Diseases, Osaka. The incidence of
other primary cancers in these patients was investigated using the
data base of *radiation* therapy combined with information from
hospital-based and Osaka prefectural cancer *registries.* One hundred
and seventy-six of the 1,569 patients (11%) had other primary cancers
(oropharynx: 21%, nasopharynx: 7%, hypopharynx: 13%, and larynx: 9%).
The time of development of other primary cancers in more than 50% of
the cases ranged between one year before and one year after the
diagnosis of primary pharyngolaryngeal cancer. The expected number
of the second primary cancer was estimated by multiplying the age-sex
specific incidence rates for Osaka residents with person-years at
risk based on Osaka prefectural cancer *registry* data. The
observed/expected (O/E) ratios were 3.17 (p less than 0.01) for
oropharyngeal, 2.01 (p less than 0.01) for nasopharyngeal, 2.16 (p
less than 0.01) for hypopharyngeal and 1.10 (n.s.) for laryngeal
cancer. The most common sites of the second primary cancer in order
of frequency were: the oral cavity and pharynx, esophagus and lung
for oropharyngeal cancer, the oral cavity and pharynx for
nasopharyngeal cancer, the oral cavity and pharynx and the esophagus
for hypopharyngeal cancer and the oral cavity and pharynx, esophagus
and lung for laryngeal cancer. Author-abstract.
MJ LARYNGEAL-NEOPLASMS: radiotherapy (rt). NEOPLASMS-SECOND-PRIMARY:
epidemiology (ep). PHARYNGEAL-NEOPLASMS: radiotherapy (rt).
MN AGE-FACTORS. FOLLOW-UP-STUDIES. HUMAN. INCIDENCE. JAPAN:
epidemiology (ep). LARYNGEAL-NEOPLASMS: epidemiology (ep), mortality
(mo). NEOPLASMS-SECOND-PRIMARY: mortality (mo).
PHARYNGEAL-NEOPLASMS: epidemiology (ep), mortality (mo).
SEX-FACTORS. TIME-FACTORS.
SB Priority Journals (M). Cancer Journals (X).

YR 1992.
IS 0179-7158. VCM.
CP GERMANY (Z1.542.315).
IM 9208.
ND ENTRY DATE: 920603.

53

AN 92233353. 92000.
AU Schraub-S. Sun-X-S. Maingon-P. Horiot-J-C. Daly-N. Keiling-R.
Pigneux-J. Pourquier-H. Rozan-R. Vrousos-C.
IN Cancer *Registry* of Doubs, Besancon, France.
TI Cervical and vaginal cancer associated with pessary use.
SO Cancer. 1992 May 15. 69(10). P 2505-9.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB From 1967 to 1990, 96 previously untreated patients with
cervicovaginal cancer associated with a history of vaginal pessary
use to control uterovaginal prolapse were referred to eight *radiation*
therapy departments in France. Sixty-eight patients had cervical
cancer, and 28 had vaginal cancer. The mean interval between pessary
insertion and cancer diagnosis was 18 years, with a range of 1 to 41
years. Most patients received *radiation* therapy and brachytherapy.
Few (5%) had Grade 3 treatment side effects. The overall 5-year
relative survival rate was 54%; nonsurvival was related to
locoregional recurrence. Because almost all tumors occurred at the
site of pessary insertion, foreign body chronic inflammation in
association with viral infection may be the cause of the tumors.
Author-abstract.
MJ CERVIX-NEOPLASMS: etiology (et). PESSARIES. VAGINAL-NEOPLASMS:
etiology (et).
MN AGED. CERVIX-NEOPLASMS: pathology (pa), therapy (th). FEMALE.
HUMAN. SURVIVAL-ANALYSIS. VAGINAL-NEOPLASMS: pathology (pa),
therapy (th).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920528.

54

AN 92231616. 92000.
AU Nambi-K-S. Mayya-Y-S. Rao-D-D. Soman-S-D.
IN Health and Safety Group, Bhabha Atomic Research Centre, Bombay,
India.
TI A study on cancer mortality in Tarapur-based atomic energy community.
SO Arch-Environ-Health. 1992 Mar-Apr. 47(2). P 155-7.
JT ARCHIVES OF ENVIRONMENTAL HEALTH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Cancer mortality risks for individuals who were employed at nuclear facilities in Tarapur and for their respective family members with whom they lived were examined. Cancer deaths that occurred in this population between 1971 and 1988 were compared with death rates published by the Bombay City Cancer *Registry.* Risks were expressed as standardized mortality ratios (SMRs), which were computed by dividing the observed number of deaths by the expected number of deaths and multiplying this value times 100. There were 11 deaths from cancer among the employees, and this figure was too small to permit any trend analysis with respect to *radiation* exposures. The SMRs for all cancers and leukemia for male employees and for middle-aged male family members who were not exposed to any *radiation* were not statistically significant. A much larger database of person years at risk would be required to reach definite conclusions. The combined cancer risks for employees and families combined were similar to risks experienced by individuals in Bombay.

Author-abstract.

MJ NEOPLASMS: mortality (mo). NUCLEAR-REACTORS.

MN ADULT. ENVIRONMENTAL-EXPOSURE. FEMALE. HUMAN. INDIA: epidemiology (ep). MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* mortality (mo). OCCUPATIONAL-DISEASES: mortality (mo). OCCUPATIONAL-EXPOSURE. RISK-FACTORS.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1992.

IS 0003-9896. 6YO.

CP UNITED-STATES (Z1.107.567.875).

IM 9207.

ND ENTRY DATE: 920520.

55

AN 92210377. 92000.

AU Manchul-L-A. Simm-J. Levin-W. Fyles-A-W. Dembo-A-J. Pringle-J-F. Rawlings-G-A. Sturgeon-J-F. Thomas-G-M.

IN Department of *Radiation* Oncology, Princess Margaret Hospital, Toronto, Ontario, Canada.

TI Borderline epithelial ovarian tumors: a review of 81 cases with an assessment of the impact of treatment.

SO Int-J-Radiat-Oncol-Biol-Phys. 1992. 22(5). P 867-74.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Optimal management of borderline epithelial ovarian tumors remains controversial because of the lack of clear, universally accepted pathologic criteria for diagnosis, the lack of complete understanding of the significance of intraperitoneal implants, and the desire to employ more limited surgery in young women. We reviewed the experience with borderline epithelial ovarian tumors at Princess Margaret Hospital in order to assess the natural history of the

disease, to determine prognostic factors that would aid in management decisions, and to determine if adjuvant therapy influenced outcome. Eighty-one patients were analyzed. The mean age was 48 years. Seventy-two percent of tumors were of the serous histologic sub-type and 28% were mucinous. Seventy-eight percent were Stage I, 11% Stage II, and 11% Stage III. Peritoneal washings contained malignant cells in 14 of 32 patients (not recorded or obtained in 49), cyst rupture occurred in 25%, surface excrescences in 40%, and adhesions in 46%. None of these factors had a significant effect on recurrence rate or survival. Eleven patients received adjuvant *radiation* therapy (10 abdomino-pelvic and 1 pelvic alone), four adjuvant chemotherapy, and one both *radiation* therapy and chemotherapy. The rest (65) received no adjuvant therapy. Due to the small numbers and infrequent events, it was not possible to analyze and thus draw valid conclusions regarding the effect of adjuvant therapy on survival or recurrence. The overall survival (OS) and cause specific survival (CSS) were 85% and 96% at 10 years, respectively. No Stage I patient died of tumor. OS for Stage I patients was 90% at 10 years, the majority of whom (61 of 63) received no adjuvant therapy, and is thus unnecessary in Stage I disease. The adequacy of unilateral oophorectomy or ovarian cystectomy could not be confirmed because of small numbers. The 10 year OS and disease-free survival in Stage II and III were 75% and 50%, respectively, despite the use of adjuvant *radiation* therapy, chemotherapy, or both. It is necessary to create a multi-center tumor *registry* in order to acquire a prospective data base from which to develop sound therapeutic decisions. Author-abstract.

MJ OVARIAN-NEOPLASMS: therapy (th).

MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. CANADA: epidemiology (ep). COMBINED-MODALITY-THERAPY. FEMALE. HUMAN. MIDDLE-AGE.

OVARIAN-NEOPLASMS: epidemiology (ep), pathology (pa).

RETROSPECTIVE-STUDIES. SURVIVAL-ANALYSIS. SURVIVAL-RATE.

TREATMENT-OUTCOME.

SB Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0360-3016. G97.

CP UNITED-STATES (Z1.107.567.875).

IM 9207.

ND ENTRY DATE: 920507.

56

AN 92210216. 92000.

AU Hall-P. Berg-G. Bjelkengren-G. Boice-J-D Jr. Ericsson-U-B.

Hallquist-A. Lidberg-M. Lundell-G. Tennvall-J. Wiklund-K. et al.

IN Department of General Oncology, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden.

TI Cancer mortality after iodine-131 therapy for hyperthyroidism.

SO Int-J-Cancer. 1992 Apr 1. 50(6). P 886-90.

JT INTERNATIONAL JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Cancer mortality was studied in 10,552 Swedish hyperthyroid patients treated with 131I between 1950 and 1975. The patients were matched with the Swedish Cause-of-Death Register and the cases of 977 patients who died from cancer or leukemia were studied. The patients had been followed up for an average of 15 years (range 0 to 35 years), and the overall standardized mortality ratio (SMR) was 1.09 `95% confidence interval (CI) = 1.03 to 1.16:, with a higher risk for women. The highest mortality was seen during the first year after exposure (SMR = 1.15) and decreased for the following 9 years (SMR = 1.04). The risk of dying from a cancer in the digestive tract and respiratory organs was significantly elevated more than 10 years after exposure, as was the overall cancer mortality (SMR = 1.14). No increased risk was seen for leukemia, bladder cancer or breast cancer. Younger patients and those receiving 131I at higher activity had higher SMRs than older patients and those receiving lower activity. Patients with toxic nodular goiter had higher risk than those with Graves' disease. The lack of increasing mortality over time and with increasing activity of 131I administered argues against a carcinogenic effect of 131I. However, in the case of cancers of the stomach, the 131I exposure could have contributed to the excess mortality from these cancers. Author-abstract.

MJ HYPERTHYROIDISM: radiotherapy (rt). IODINE-RADIOISOTOPES: adverse-effects (ae),therapeutic-use (tu). LEUKEMIA: mortality (mo). *LEUKEMIA-RADIATION-INDUCED:* mortality (mo). NEOPLASMS: mortality (mo). *NEOPLASMS-RADIATION-INDUCED:* mortality (mo). MN AGE-FACTORS. FEMALE. HUMAN. LEUKEMIA: etiology (et). MALE. MIDDLE-AGE. NEOPLASMS: etiology (et). *REGISTRIES.* RETROSPECTIVE-STUDIES. SUPPORT-U-S-GOVT-P-H-S. SWEDEN. TIME-FACTORS.

RN 0 -- Iodine-Radioisotopes.
SB Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0020-7136. GQU.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920505.
CLASS UPDATE: 92.
NO N01CP51034. GRANT: CP. INSTITUTE: NCI.

57

AN 92167451. 92000.
AU Moreno-J-G. Ahlering-T-E.
IN Department of General Oncologic Surgery, City of Hope National Medical Center, Duarte, California.
TI Late local complications after definitive radiotherapy for prostatic adenocarcinoma.
SO J-Urol. 1992 Mar. 147(3 Pt 2). P 926-8.
JT JOURNAL OF UROLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).

AB Definitive *radiation* treatment of prostatic adenocarcinoma has been reported to produce good long-term local disease control, and distant disease failure is almost always associated with good local palliation. We examined late local complications in patients who died with recurrent prostate cancer after definitive radiotherapy as compared to patients treated with hormonal deprivation alone for advanced disease. Between 1979 and 1989 the tumor *registry* listed 33 men in whom definitive radiotherapy failed documented by bone scan or biopsy and 54 men who were managed with palliative hormonal therapy for noncurable disease. A complication was defined as a local problem requiring a procedure or hospitalization. Overall 23 of the radiotherapy cases (70%) had a local complication as compared to 16 of the patients (30%) who underwent only hormonal therapy. Local complications after radiotherapy included urethral stricture (10 cases), prostatic obstruction (8), hematuria (4), *radiation* cystitis (3), ureteral obstruction (2) and rectosigmoid *radiation* injury (4). Local complications after hormonal therapy consisted of prostatic obstruction (11 cases), ureteral obstruction (3) and hematuria (3). The radiotherapy group had 2 urinary and 2 fecal diversions, and the hormonal therapy group had none. In summary, we found a higher risk of late local complications in patients who had recurrence and died with metastatic prostate cancer after definitive radiotherapy, as compared to patients who only received hormonal therapy. These results question the belief that patients with distant disease in whom radiotherapy fails enjoy good long-term local palliation.
Author-abstract.

MJ ADENOCARCINOMA: radiotherapy (rt). PROSTATIC-NEOPLASMS: radiotherapy (rt). *RADIATION-INJURIES:* epidemiology (ep).

MN AGED. HUMAN. MALE. MIDDLE-AGE. SUPPORT-U-S-GOVT-P-H-S.
TIME-FACTORS.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1992.

IS 0022-5347. KC7.

CP UNITED-STATES (Z1.107.567.875).

IM 9206.

ND ENTRY DATE: 920401.

NO CA09477. GRANT: CA. INSTITUTE: NCI.

58

AN 92162972. 92000.

AU Emerson-J-C. Weiss-N-S.

IN Department of Epidemiology, University of Washington, School of Public Health and Community Medicine, Seattle.

TI Colorectal cancer and solar *radiation.*

SO Cancer-Causes-Control. 1992 Jan. 3(1). P 95-9.

JT CANCER CAUSES AND CONTROL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB It has been suggested that sunlight might have a role in the

prevention of colorectal cancer via a mechanism involving vitamin D. We used data from nine population-based cancer *registries* in the United States to analyze incidence rates for colon and rectal cancer during 1973-84 as a function of regional variation in the levels of available solar *radiation.* Data were restricted to include only those persons born and diagnosed in the same state. Incidence rates of colon and rectal cancer among men tended to increase with decreasing levels of solar *radiation.* Compared to rates in New Mexico and Utah, for example, rates in the Detroit area (MI), Connecticut, and western Washington were 50 percent to 80 percent higher. Among women, colon cancer rates showed a similar trend, though of smaller magnitudes; rates of rectal cancer among women did not vary in relation to levels of available solar *radiation.*
Author-abstract.

MJ COLONIC-NEOPLASMS: epidemiology (ep). RECTAL-NEOPLASMS: epidemiology (ep). SUNLIGHT.
MN FEMALE. HUMAN. INCIDENCE. MALE. RISK-FACTORS.
SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES. VITAMIN-D.
RN 1406-16-2 -- Vitamin-D.
SB Priority Journals (M).
YR 1992.
IS 0957-5243. A5R.
CP ENGLAND (Z1.542.363.300).
IM 9206.
ND ENTRY DATE: 920330.
NO 1R35CA39779. GRANT: CA. INSTITUTE: NCI. 5T32CA0916813. GRANT: CA. INSTITUTE: NCI.

59

AN 92154241. 92000.
AU Kendall-G-M. Muirhead-C-R. MacGibbon-B-H. OHagan-J-A.
Conquest-A-J. Goodill-A-A. Butland-B-K. Fell-T-P. Jackson-D-A.
Webb-M-A. et al.
IN National Radiological Protection Board, Chilton, Didcot.
TI Mortality and occupational exposure to *radiation:* first analysis of the National *Registry* for *Radiation* Workers.
SO BMJ. 1992 Jan 25. 304(6821). P 220-5.
JT BMJ.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB OBJECTIVE--To study cause specific mortality of *radiation* workers with particular reference to associations between fatal neoplasms and level of exposure to *radiation.* DESIGN--Cohort study.
SETTING--United Kingdom. SUBJECTS--95,217 *radiation* workers at major sites of the nuclear industry. MAIN OUTCOME MEASURE--Cause of death. RESULTS--Most standardised mortality ratios were below 100: 83 unlagged, 85 with a 10 year lag for all causes; 84 unlagged, 86 lagged for all cancers; and 80 for all known other causes, indicating a "healthy worker effect." The deficit of lung cancer (75 unlagged, 76 lagged) was significant at the 0.1% level. Standardised mortality

ratios were significantly raised (214 unlagged, 303 lagged) for thyroid cancer, but there was no evidence for any trend with external recorded *radiation* dose. Dose of external *radiation* and mortality from all cancers were weakly correlated ($p = 0.10$), and multiple myeloma was more strongly correlated ($p = 0.06$); for leukaemia, excluding chronic lymphatic, the trend was significant ($p = 0.03$; all tests one tailed). The central estimates of lifetime risk derived from these data were 10.0% per Sv (90% confidence interval less than 0 to 24%) for all cancers and 0.76% per Sv (0.07 to 2.4%) for leukaemia (excluding chronic lymphatic leukaemia). These are, respectively, 2.5 times and 1.9 times the risk estimates recommended by the International Commission on Radiological Protection, but 90% confidence intervals are large and the commission's risk factors fall well within the range. The positive trend with dose for all cancers, from which the risk estimate was derived, was not significant. The positive association between leukaemia (except chronic lymphatic leukaemia) was significant and robust in subsidiary analyses. This study showed no association between *radiation* exposure and prostatic cancer. CONCLUSION--There is evidence for an association between *radiation* exposure and mortality from cancer, in particular leukaemia (excluding chronic lymphatic leukaemia) and multiple myeloma, although mortality from these diseases in the study population overall was below that in the general population. The central estimates of risk from this study lie above the most recent estimates of the International Commission on Radiological Protection for leukaemia (excluding chronic lymphatic leukaemia) and for all malignancies. However, the commission's risk estimates are well within the 90% confidence intervals from this study. Analysis of combined cohorts of *radiation* workers in the United States indicated lower risk estimates than the commission recommends, and when the American data are combined with our analysis the overall risks are close to those estimated by the commission. This first analysis of the National *Registry* for *Radiation* Workers does not provide sufficient evidence to justify a revision in risk estimates for radiological protection purposes. Author-abstract.

MJ *NEOPLASMS-RADIATION-INDUCED:* etiology (et). NUCLEAR-ENERGY. OCCUPATIONAL-DISEASES: etiology (et). OCCUPATIONAL-EXPOSURE: statistics-and-numerical-data (sn). *REGISTRIES.*
 MN ADULT. AGED. AGED-80-AND-OVER. COHORT-STUDIES. FEMALE. GREAT-BRITAIN: epidemiology (ep). HUMAN. MALE. MIDDLE-AGE. MORTALITY. NEOPLASMS: mortality (mo). OCCUPATIONAL-DISEASES: mortality (mo). *RADIATION-DOSAGE.* RISK-FACTORS.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1992.
 IS 0959-8138. BMJ.
 CP ENGLAND (Z1.542.363.300).
 IM 9205.
 ND ENTRY DATE: 920323.

AN 92136309. 92000.
AU Harris-G-J. Clark-G-M. Von-Hoff-D-D.
IN Department of Medicine, University of Texas Health Science Center,
San Antonio 78284-7884.
TI Hispanic patients with head and neck cancer do not have a worse
prognosis than Anglo-American patients.
SO Cancer. 1992 Feb 15. 69(4). P 1003-7.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This study was undertaken to determine whether the survival of
Hispanic patients with squamous cell carcinoma of the head and neck
was different from that of Anglo-American patients. The charts of
275 male patients with a diagnosis of squamous cell carcinoma of the
head and neck at one Veterans Administration Hospital were reviewed
in an attempt to identify prognostic indicators for both ethnic
groups. No differences were observed between Anglo-American and
Hispanic patients with respect to sites of the primary tumor, age at
diagnosis, performance status, or the frequency of surgery, *radiation*
therapy, or chemotherapy; however, there was a tendency for Hispanic
patients to have received more treatment. There also was a trend (P
 $= 0.12$) for Hispanic patients to have a more advanced stage of
cancer. Hispanic patients lost significantly more weight (P less
than 0.001) and had significantly lower serum albumin levels (P less
than 0.0001). According to the results of multivariate survival
analyses, the variables that were predictive of a poor prognosis
included advanced stage of disease, decreased serum albumin levels,
increased weight loss, administration of chemotherapy, lack of
radiation therapy or surgery, and advanced age. Ethnicity was not a
significant predictor of survival either in univariate analyses, or
within patients with the same stage of disease, or after adjustment
for other prognostic factors. In conclusion, the natural history of
squamous cell carcinoma of the head and neck is the same for Hispanic
and Anglo-American patients. Author-abstract.
MJ CARCINOMA-SQUAMOUS-CELL: pathology (pa). HEAD-AND-NECK-NEOPLASMS:
pathology (pa).
MN CARCINOMA-SQUAMOUS-CELL: mortality (mo). COMPARATIVE-STUDY.
HEAD-AND-NECK-NEOPLASMS: mortality (mo). HISPANIC-AMERICANS.
HOSPITALS-VETERANS. HUMAN. MALE. PROGNOSIS. RACIAL-STOCKS.
REGISTRIES. RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S.
SURVIVAL-ANALYSIS. TEXAS. WHITES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1992.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9205.
ND ENTRY DATE: 920310.
NO 5T32CA09434. GRANT: CA. INSTITUTE: NCI.

AN 92122583. 92000.
 AU Takahashi-N. Minoda-K.
 IN Department of Ophthalmology, Ichihara Hospital, Teikyo University
 School of Medicine, Chiba, Japan.
 TI Prognosis of orbital rhabdomyosarcoma in children in Japan.
 SO Jpn-J-Ophthalmol. 1991. 35(3). P 292-9.
 JT JAPANESE JOURNAL OF OPHTHALMOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Retrospective studies were made of patients with orbital
 rhabdomyosarcoma (RMS) who were registered in the Japan Children's
 Cancer *Registry* and the National *Registry* of Ocular Tumors in Japan
 during 1974-1989. Thirty-five children under 15 years of age were
 registered as orbital RMS patients. The median age of onset was 5
 years and 2 months; lid swelling was the most frequent initial
 symptom and finding. Histologically, 79% were classified as the
 embryonal type. Orbital exenteration was the standard treatment
 until the mid-1970's, but all the 5 patients who had only surgical
 therapy experienced relapses. Since the mid-1970's, a combined
 regimen of surgery, *radiation* and chemotherapy has been used.
 Chemotherapy has recently been considered to play the most important
 role in this combined therapy. Among the 35 patients studied, three
 patients with only biopsy as the surgical procedure have had no
 relapses up to the present time. Recurrent tumors developed in 15 of
 the remaining 32 patients: 7 of those were local, 8 were distant.
 All relapses (10 of the 14 patients in the 1970's, and 5 of the 18 in
 the 1980's) occurred within 1 year and 11 months after initial
 treatment. The 3-year survival rate of these 32 patients, estimated
 by the Kaplan-Meier method, was 70% (52% in the 1970's, 86% in the
 1980's). Author-abstract.
 MJ ORBITAL-NEOPLASMS: mortality (mo). RHABDOMYOSARCOMA: mortality
 (mo).
 MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. COMBINED-MODALITY-THERAPY.
 FEMALE. FOLLOW-UP-STUDIES. HUMAN. INFANT. JAPAN: epidemiology
 (ep). MALE. NEOPLASM-RECURRENCE-LOCAL: mortality (mo).
 ORBITAL-NEOPLASMS: diagnosis (di), therapy (th). PROGNOSIS.
 REGISTRIES. RETROSPECTIVE-STUDIES. RHABDOMYOSARCOMA: diagnosis
 (di), therapy (th). SURVIVAL-RATE.
 SB Priority Journals (M).
 YR 1991.
 IS 0021-5155. KN1.
 CP JAPAN (Z1.252.474.463).
 IM 9204.
 ND ENTRY DATE: 920227.

AN 92116611. 92000.
 AU Tsyb-A-F. Ivanov-V-K. Airapetov-S-A. Gagin-E-A. Maksutov-M-A.

Rozhkov-O-V. Stadnik-O-E. Chekin-SIu. Saakian-A-K.
 TI *`Radiation-epidemiologic* analysis of the data of State *Registry* of persons exposed to *radiation* due to the Chernobyl AES accident:.
 TT Radiatsionno-epidemiologicheskii analiz dannykh Gosudarstvennogo registra lits, podvergshikhsia radiatsionnomu vozhdeistviu v rezul'tate avarii na Chernobyl'skoi AES.
 SO Vestn-Akad-Med-Nauk-SSSR. 1991. (11). P 32-6.
 JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.
 PT JOURNAL-ARTICLE (ART).
 LG Russian (RS).
 MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* epidemiology (ep). *REGISTRIES.*
 MN ADOLESCENCE. ADULT. CHILD. COMPARATIVE-STUDY. HUMAN. *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep), etiology (et), mortality (mo). MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep), etiology (et), mortality (mo). OCCUPATIONAL-DISEASES: etiology (et). PROGNOSIS. *RADIATION-DOSAGE.* *RADIATION-INJURIES:* etiology (et). UKRAINE: epidemiology (ep). USSR: epidemiology (ep).
 YR 1991.
 IS 0002-3027. X9A.
 CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
 IM 9204.
 ND ENTRY DATE: 920220.

63

AN 92106283. 92000.
 AU Mabuchi-K. Soda-M.
 IN Department of Epidemiology, *Radiation* Effects Research Foundation, Hiroshima, Japan.
 TI A review of forty-five years study of Hiroshima and Nagasaki atomic bomb survivors. Tumor *registries* and cancer incidence studies.
 SO J-Radiat-Res (Tokyo). 1991 Mar. 32 Suppl. P 239-44.
 JT JOURNAL OF *RADIATION* RESEARCH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A tumor *registry* is essential in the systematic collection and analysis of tumor data in a defined population. Population-based tumor *registries* have been in operation for more than 30 years in Hiroshima and Nagasaki. While the tumor *registry* data have previously been used for many site-specific cancer studies in atomic bomb survivors, overall analysis of tumor *registry* based cancer incidence data among the atomic bomb survivors has not been undertaken for some time. However, a recent improvement in the tumor *registries* has made it possible to analyze most recent cancer incidence data among the Life Span Study population. Preliminary analysis under way indicates a potential power of the data. There are a few methodological problems associated with the use of the incidence data, especially relating to consistency of data and migration. Several measures taken to resolve such problems are

discussed. Author-abstract.

MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-WARFARE.
REGISTRIES.

MN FEMALE. HUMAN. JAPAN: epidemiology (ep). MALE.
NEOPLASMS-RADIATION-INDUCED: etiology (et), mortality (mo).
SURVIVAL.

YR 1991.

IS 0449-3060. JVO.

CP JAPAN (Z1.252.474.463).

IM 9204.

ND ENTRY DATE: 920211.

64

AN 92097001. 92000.

AU Boice-J-D Jr. Mandel-J-S. Doody-M-M. Yoder-R-C. McGowan-R.

IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda,
MD 20892.

TI A health survey of radiologic technologists.

SO Cancer. 1992 Jan 15. 69(2). P 586-98.

JT CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A health survey of more than 143,000 radiologic technologists is described. The population was identified from the 1982 computerized files of the American *Registry* of Radiologic Technologists, which was established in 1926. Inactive members were traced to obtain current addresses or death notifications. More than 6000 technologists were reported to have died. For all registrants who were alive when located, a detailed 16-page questionnaire was sent, covering occupational histories, medical conditions, and other personal and lifestyle characteristics. Nonrespondents were contacted by telephone to complete an abbreviated questionnaire. More than 104,000 responses were obtained. The overall response rate was 79%. Most technologists were female (76%), white (93%), and employed for an average of 12 years; 37% attended college, and approximately 50% never smoked cigarettes. *Radiation* exposure information was sought from employer records and commercial dosimetry companies. Technologists employed for the longest times had the highest estimated cumulative exposures, with approximately 9% with exposures greater than 5 cGy. There was a high correlation between cumulative occupational exposure and personal exposure to medical radiographs, related, in part, to the association of both factors with attained age. It is interesting that 10% of all technologists allowed others to practice taking radiographs on them during their training. Nearly 4% of the respondents reported having some type of cancer, mainly of the skin (1517), breast (665), and cervix (726). Prospective surveys will monitor cancer mortality rates through use of the National Death Index and cancer incidence through periodic mailings of questionnaires. This is the only occupational study of *radiation* employees who are primarily women and should provide new information

on the possible risks associated with relatively low levels of exposure. Author-abstract.

MJ ALLIED-HEALTH-PERSONNEL: statistics-and-numerical-data (sn).
HEALTH-SURVEYS. OCCUPATIONAL-EXPOSURE: statistics-and-numerical-data (sn). TECHNOLOGY-RADIOLOGIC: manpower (ma).
MN ADULT. EMPLOYMENT: statistics-and-numerical-data (sn). FEMALE.
HUMAN. MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). OCCUPATIONAL-DISEASES: epidemiology (ep). QUESTIONNAIRES.
RADIATION-DOSAGE. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES: epidemiology (ep).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1992.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9204.
ND ENTRY DATE: 920204.
NO NO1CP21015. GRANT: CP. INSTITUTE: NCI. NO1CP61006. GRANT: CP. INSTITUTE: NCI. NO1CP81058. GRANT: CP. INSTITUTE: NCI.

65

AN 92096617. 92000.
AU Gluckman-E. Horowitz-M-M. Champlin-R-E. Hows-J-M. Bacigalupo-A. Biggs-J-C. Camitta-B-M. Gale-R-P. Gordon-Smith-E-C. Marmont-A-M. et al.
IN International Bone Marrow Transplant *Registry,* Medical College of Wisconsin 53226.
TI Bone marrow transplantation for severe aplastic anemia: influence of conditioning and graft-versus-host disease prophylaxis regimens on outcome.
SO Blood. 1992 Jan 1. 79(1). P 269-75.
JT BLOOD.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Data for 595 patients with severe aplastic anemia receiving HLA-identical sibling bone marrow transplants were analyzed to determine the effect of pretransplant conditioning and graft-versus-host disease (GVHD) prophylaxis on outcome. Transplants were performed between 1980 and 1987 and reported to the International Bone Marrow Transplant *Registry.* Three conditioning regimens (cyclophosphamide alone, cyclophosphamide plus limited field *radiation,* and cyclophosphamide plus total body *radiation)* were studied; none was associated with superior long-term survival. Three GVHD prophylaxis regimens (methotrexate, cyclosporine, and methotrexate plus cyclosporine) were studied. Recipients of cyclosporine with or without methotrexate had a significantly higher probability of 5-year survival (69%, 95% confidence interval 63% to 74%) than patients receiving methotrexate only (56%, 49% to 62%, P less than .003). Higher survival with cyclosporine resulted from decreased risks of interstitial pneumonia (P less than .0002) and

chronic GVHD (P less than .005). Additional risk factors adversely associated with survival included infection pretransplant (P less than .004), use of parous or transfused female donors (P less than .005), older patient age (P less than .005), and 20 or more pretransplant transfusions (P less than .006). These data may prove useful in planning randomized clinical trials and in identifying patients at high-risk of treatment failure. Author-abstract.

- MJ ANEMIA-APLASTIC: surgery (su). BONE-MARROW-TRANSPLANTATION. GRAFT-VS-HOST-DISEASE: prevention-and-control (pc). IMMUNOSUPPRESSION.
- MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. CYCLOPHOSPHAMIDE: therapeutic-use (tu). CYCLOSPORINE: therapeutic-use (tu). FEMALE. HUMAN. INFANT. MALE. METHOTREXATE: therapeutic-use (tu). SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. WHOLE-BODY-IRRADIATION.
- RN 50-18-0 -- Cyclophosphamide.
59-05-2 -- Methotrexate.
59865-13-3 -- Cyclosporine.
- SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
- YR 1992.
- IS 0006-4971. A8G.
- CP UNITED-STATES (Z1.107.567.875).
- IM 9204.
- ND ENTRY DATE: 920131.
- NO CA40053. GRANT: CA. INSTITUTE: NCI. N01AI62530. GRANT: AI. INSTITUTE: NIAID.

66

- AN 92087594. 92000.
- AU Raymond-L. Schubert-H.
- IN Geneva Cancer *Registry,* Switzerland.
- TI The "post-Chernobyl" childhood leukemia study (ECLIS Study).
- SO Soz-Praventivmed. 1991. 36(4-5). P 304-5.
- JT SOZIAL- UND PRAVENTIVMEDIZIN.
- PT JOURNAL-ARTICLE (ART).
- LG English (EN).
- AB Numerous European cancer *registries* are working together to evaluate the current trends in the incidence of childhood leukemias after the Chernobyl accident. The study is coordinated by the International Agency for Research on Cancer. The primary objective is to establish whether the accident has resulted in an increase in the number of cases. The results will also allow an evaluation of the clusters which could be reported. According to the provisional estimations, the accident could lead to an increase of an average of 0.8% of the frequency of new cases in the European regions covered by the study. For the whole of Switzerland, this increase would correspond to 0.5 supplementary cases per year. Author-abstract.
- MJ ACCIDENTS. LEUKEMIA-LYMPHOCYTIC-ACUTE-L1: etiology (et).
LEUKEMIA-RADIATION-INDUCED: epidemiology (ep). NUCLEAR-REACTORS.

MN CHILD. EUROPE: epidemiology (ep). HUMAN.
LEUKEMIA-LYMPHOCYTIC-ACUTE-L1: epidemiology (ep). *REGISTRIES.*
UKRAINE.
SB Priority Journals (M).
YR 1991.
IS 0303-8408. YF1.
CP SWITZERLAND (Z1.542.883).
IM 9203.
ND ENTRY DATE: 920123.

67

AN 92087592. 92000.
AU Moser-M.
IN Federal Office of Public Health, Bern.
TI Dosimetric data on *radiation* workers in Switzerland: availability and
limitations for epidemiological research.
SO Soz-Praventivmed. 1991. 36(4-5). P 297-301.
JT SOZIAL- UND PRAVENTIVMEDIZIN.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In 1990 the Swiss National Dose *Registry* started a test phase of data
collection and processing. The question has been raised whether this
new, centralised database with its computerized, easily obtainable
data on occupational *radiation* exposure in Switzerland can be used
for radioepidemiological studies. This paper sketches the
organisation of personal dosimetry in Switzerland, describes the dose
registry and other dosimetric data sources and discusses their
suitability and limitations for radio-epidemiological studies.
Author-abstract.
MJ OCCUPATIONAL-EXPOSURE. *RADIATION-DOSAGE.*
MN EPIDEMIOLOGIC-METHODS. HUMAN. NUCLEAR-MEDICINE-DEPARTMENT-HOSPITAL:
manpower (ma). NUCLEAR-REACTORS. *REGISTRIES.* SWITZERLAND.
THERMOLUMINESCENT-DOSIMETRY.
SB Priority Journals (M).
YR 1991.
IS 0303-8408. YF1.
CP SWITZERLAND (Z1.542.883).
IM 9203.
ND ENTRY DATE: 920123.

68

AN 92079336. 92000.
AU Lazovich-D-A. White-E. Thomas-D-B. Moe-R-E.
IN Public Health Sciences Division, Fred Hutchinson Cancer Research
Center, Seattle, WA 98104.
TI Underutilization of breast-conserving surgery and *radiation* therapy
among women with stage I or II breast cancer `see comments:.
CM Comment in: JAMA 1991 Dec 25;266(24):3472-3.
SO JAMA. 1991 Dec 25. 266(24). P 3433-8.
JT JAMA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To identify time trends and factors associated with breast-conserving surgery (BCS) and delivery of postoperative *radiation* therapy among women with stage I or II breast cancer. DESIGN--Survey. SETTING--Population-based cancer *registry* in the Seattle-Puget Sound (Wash) region. PARTICIPANTS--The study included 8095 women diagnosed with stage I or II breast cancer (American Joint Committee on Cancer staging criteria) from 1983 through 1989. MAIN OUTCOME MEASURES--Breast-conserving surgery with or without *radiation* therapy vs mastectomy, and, among women with BCS, a comparison of *radiation* therapy vs no therapy. RESULTS--In 1985 when results from a US randomized clinical trial of BCS were published, the frequency of BCS peaked (46.3% of stage I; 30.1% of stage II) followed by a return to levels before 1985 for women with stage II breast cancer and a more moderate decline for stage I breast cancer. The likelihood of BCS decreased with increasing age (P less than .001), with stage II disease, and with residence outside the region's major urban center, and it increased with education (P less than .001) or median income (P less than .001) by census tract. The proportion of women who received *radiation* therapy after BCS decreased with age (P less than .001), was lower for women with stage II than stage I disease, and was lowest in counties without *radiation* therapy facilities. CONCLUSIONS--Despite scientific evidence of the equivalent efficacy of BCS with *radiation* therapy and mastectomy, BCS is not performed on the majority of women with stage I or II breast cancer as recommended by the National Institutes of Health, and factors are associated with its use that differ from selection criteria outlined by the National Institutes of Health. Author-abstract.

MJ BREAST-NEOPLASMS: radiotherapy (rt), surgery (su).

MASTECTOMY-SEGMENTAL: utilization (ut).

OUTCOME-ASSESSMENT-HEALTH-CARE: statistics-and-numerical-data (sn).

MN AGED. AGED-80-AND-OVER. BREAST-NEOPLASMS: pathology (pa). FEMALE.

HUMAN. MASTECTOMY-SEGMENTAL: statistics-and-numerical-data (sn).

MIDDLE-AGE. NEOPLASM-STAGING. POSTOPERATIVE-CARE. RADIOTHERAPY: statistics-and-numerical-data (sn). *REGISTRIES.*

REGRESSION-ANALYSIS. SUPPORT-U-S-GOVT-P-H-S. WASHINGTON.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0098-7484. KFR.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920114.

NO 5P01CA34847. GRANT: CA. INSTITUTE: NCI.

AN 92079335. 92000.

AU Hand-R. Sener-S. Imperato-J. Chmiel-J-S. Sylvester-J-A.

Fremgen-A.

IN Department of Medicine, University of Illinois, Chicago College of Medicine.

TI Hospital variables associated with quality of care for breast cancer patients `see comments:.

CM Comment in: JAMA 1991 Dec 25;266(24):3472-3.

SO JAMA. 1991 Dec 25. 266(24). P 3429-32.

JT JAMA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB OBJECTIVE--To determine the degree of compliance with clinical standards among hospitals for care of breast cancer patients and account for variations in compliance. DESIGN--Analysis of cancer *registry* data submitted to the American Cancer Society, Illinois Division, Chicago, for a concurrent prospective descriptive study of breast cancer, supplemented by other hospital data from public sources. SETTING--Ninety-nine Illinois hospitals evenly distributed among rural counties, counties with small cities outside the Chicago metropolitan area, exurban counties in the Chicago metropolitan area, suburban Cook County, and urban Chicago. PATIENTS--A total of 5766 newly diagnosed patients with histologically confirmed breast cancer in 1988, representing 84% of the estimated 6900 new cases in the state for that year. MAIN OUTCOME MEASURES--Descriptive statistics and multiple linear regression analyses of five dependent quality variables from clinical indicators related to early diagnosis, hormone receptor determination, adjuvant therapy, *radiation* therapy, and axillary lymph node dissection. RESULTS--At the hospitals studied, (1) late stage (IIb through IV) at diagnosis was associated with urban location, higher proportion of poorly insured patients, fewer breast cancer cases treated, and lower oncology charges (proportion of variance explained, $R^2 = .50$, P less than .00001); (2) omission of hormone receptor test for stages II through IV was associated with urban location and higher proportion of poorly insured patients ($R^2 = .18$, P less than .00003); and (3) omission of indicated *radiation* therapy was associated with urban location and fewer breast cancer cases ($R^2 = .21$, P less than .00001). Omission of adjuvant therapy and omission of axillary lymph node dissection were not significantly associated with any of the hospital variables examined. CONCLUSIONS--The findings suggest that there is a group of urban hospitals, generally small and marginally reimbursed, where comprehensive diagnosis and treatment of breast cancer are not obtained. Author-abstract.

MJ BREAST-NEOPLASMS: therapy (th). ONCOLOGY-SERVICE-HOSPITAL: standards (st). OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE: statistics-and-numerical-data (sn). QUALITY-OF-HEALTH-CARE: statistics-and-numerical-data (sn).

MN BREAST-NEOPLASMS: diagnosis (di). COMBINED-MODALITY-THERAPY: standards (st). DATA-COLLECTION. FEMALE. HOSPITALS-RURAL: standards (st). HOSPITALS-TEACHING: standards (st). HOSPITALS-URBAN: standards (st). HUMAN. ILLINOIS. *REGISTRIES.*

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0098-7484. KFR.

CP UNITED-STATES (Z1.107.567.875).

IM 9203.

ND ENTRY DATE: 920114.

70

AN 92073982. 92000.

AU Lambert-B-E.

IN Department of *Radiation* Biology, Medical College of St. Bartholomew's Hospital, University of London, England.

TI The adequacy of current occupational standards for protecting the health of nuclear workers.

SO Occup-Med. 1991 Oct-Dec. 6(4). P 725-39.

JT OCCUPATIONAL MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB It will be clear from the foregoing that occupational standards have varied over the past 30-40 years since the beginnings of the nuclear industry. Our perception of risk rates for cancer mortality and genetic effects has changed, such that the rates have been constantly revised upwards. Logically, dose limits should have been reduced in proportion, but this assumes a constant approach to the "tolerability" or "acceptability" of risk and this has not been demonstrated. Dose limits are not seen by management in the nuclear industry as the only plank in the structure of *radiation* protection; emphasis is also being given to the "optimization" ethic. In these circumstances a good test of the efficacy of the system of *radiation* control in limiting health effects is needed. As can be seen, no such study is available and, given the doses received and the numbers of workers involved, it is unlikely that any epidemiologic study, apart from studies on miners, will have sufficient statistical power to be totally unequivocal. However, some studies have shown cancer mortality associations with *radiation* exposure that are significant. Probably the best way to mitigate the inherent drawbacks in these studies is to pool data-sets, and this is being done. Other improvements will include estimates of cancer incidence in countries with cancer *registries* (e.g., U.K., Canada, and Sweden) and to perhaps go beyond epidemiologic data to consider sensitive biologic markers as indices of exposure. Overall the conclusion must be that the *radiation* industry cannot be complacent and for some tasks in the processes involved (e.g., uranium mining) there is strong evidence of a history of unacceptable health effects occurring.

Author-abstract. 23 Refs.

MJ *NEOPLASMS-RADIATION-INDUCED:* prevention-and-control (pc).

NUCLEAR-REACTORS. OCCUPATIONAL-DISEASES: prevention-and-control (pc). *RADIATION-PROTECTION:* standards (st).

MN FORECASTING. HUMAN. INCIDENCE. MAXIMUM-PERMISSIBLE-EXPOSURE-LEVEL.

NEOPLASMS-RADIATION-INDUCED: epidemiology (ep).
OCCUPATIONAL-DISEASES: epidemiology (ep). *RADIATION-DOSAGE.*
SB Priority Journals (M).
YR 1991.
IS 0885-114X. U9P.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920109.

71

AN 92070248. 92000.
AU Tsukada-K. Church-J-M. Jagelman-D-G. Fazio-V-W. Lavery-I-C.
IN Department of Colorectal Surgery, Cleveland Clinic Foundation, Ohio.
TI Systemic cytotoxic chemotherapy and *radiation* therapy for desmoid in
familial adenomatous polyposis.
SO Dis-Colon-Rectum. 1991 Dec. 34(12). P 1090-2.
JT DISEASES OF THE COLON AND RECTUM.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Forty-two of 416 familial adenomatous polyposis (FAP) patients in the
FAP *registry* at the Cleveland Clinic had desmoid tumors. The role of
cytotoxic chemotherapy and *radiation* therapy in the management of
these patients was investigated. Eight intra-abdominal desmoid
tumors were treated by systemic cytotoxic chemotherapy. Two had
complete remission, and one had partial remission. Five patients
died as a result of the desmoid tumor or late complications of
chemotherapy. Three intra-abdominal desmoids were treated by
radiation therapy with no response. Neither cytotoxic chemotherapy
nor *radiation* therapy is recommended as a first-choice treatment for
intra-abdominal desmoid tumors in patients with FAP.
Author-abstract.
MJ FIBROMA: drug-therapy (dt), radiotherapy (rt).
NEOPLASMS-MULTIPLE-PRIMARY. POLYPOSIS-SYNDROME-FAMILIAL.
MN ADOLESCENCE. ADULT. ANTINEOPLASTIC-AGENTS-COMBINED: adverse-effects
(ae), therapeutic-use (tu).COMBINED-MODALITY-THERAPY. FEMALE.
HUMAN. MALE. MIDDLE-AGE. RADIOTHERAPY: adverse-effects (ae).
RN 0 -- Antineoplastic-Agents-Combined.
SB Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0012-3706. EAB.
CP UNITED-STATES (Z1.107.567.875).
IM 9203.
ND ENTRY DATE: 920108.
CLASS UPDATE: 92.

72

AN 92064366. 92000.
AU Horn-Ross-P-L. West-D-W. Brown-S-R.
IN Northern California Cancer Center, Alameda, CA 94501.
TI Recent trends in the incidence of salivary gland cancer.

SO Int-J-Epidemiol. 1991 Sep. 20(3). P 628-33.
 JT INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Beginning in 1985, a sudden and sustained doubling of salivary gland cancer incidence, among men only, is observed in the San Francisco-Oakland Metropolitan Statistical Area. *Registry* data are examined to determine the nature of this increase and its possible association with the AIDS epidemic. Changes in patient characteristics are assessed by comparing their distribution among recently diagnosed cases (1985-1988) to an expectation based on population growth and the age-specific incidence among patients diagnosed earlier (1973-1984). Based on the observed patterns, it is unlikely that the temporal increase in these tumours is a direct result of the AIDS epidemic or solely the result of a shift in the prevalence of established risk factors. The increase is predominantly seen in men over the age of 75 at diagnosis (O/E = 2.3, $p = 0.02$) and is observed among both those with and without a prior cancer (O/E = 2.7, $p = 0.02$ and O/E = 1.5, $p = 0.06$, respectively). *Radiation* for the prior cancer was not associated with increased occurrence. Military exposure is crudely approximated by examining birth cohorts. However, the cohort data do not support a hypothesis of military exposure. Author-abstract.
 MJ SALIVARY-GLAND-NEOPLASMS: epidemiology (ep).
 MN AGED. COHORT-STUDIES. FEMALE. HUMAN. MALE. MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS. SALIVARY-GLAND-NEOPLASMS: ethnology (eh), etiology (et). SAN-FRANCISCO. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
 SB Priority Journals (M).
 YR 1991.
 IS 0300-5771. GR6.
 CP ENGLAND (Z1.542.363.300).
 IM 9203.
 ND ENTRY DATE: 920102.
 NO N01CN05224. GRANT: CN. INSTITUTE: NCI. CA49499. GRANT: CA. INSTITUTE: NCI.

73

AN 92057185. 92000.
 AU Ledoshchuk-B-A.
 TI `National distribution *registry* of individuals exposed to *radiation* effects due to the Chernobyl AES accident:.
 TT Gosudarstvennyi raspredelennyi registr lits, podvergnshikhsia radiatsionnomu vozdeistviuu v rezul'tate avarii na Chernobyl'skoi AES.
 SO Vestn-Akad-Med-Nauk-SSSR. 1991. (8). P 9-11.
 JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR.
 PT JOURNAL-ARTICLE (ART).
 LG Russian (RS).
 AB The paper deals with the problems in the case follow-up of the

population exposed to *radiation* caused by the accident at the Chernobyl Atomic Power Station on the basis of the automated systems for collecting and processing medical information. A number of organizational, medical, technological, computational problems in setting up the National Distribution *Registry* should be solved for a complete and long-term follow-up. A differential approach was proposed to the information provision of health care services and to the determination of a population size and principles of selecting the populations to be followed up in the *Registry.* Author-abstract.

MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* epidemiology (ep). *REGISTRIES.*

MN ENGLISH-ABSTRACT. FOLLOW-UP-STUDIES. HUMAN.
 LEUKEMIA-RADIATION-INDUCED: epidemiology (ep).
 NEOPLASMS-RADIATION-INDUCED: epidemiology (ep). TIME-FACTORS.
 UKRAINE.

YR 1991.
 IS 0002-3027. X9A.
 CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
 IM 9202.
 ND ENTRY DATE: 911125.

74

AN 92048508. 92000.

AU Czeizel-A-E. Elek-C. Susanszky-E.

IN Department of Human Genetics and Teratology, National Institute of Hygiene, Budapest, Hungary.

TI The evaluation of the germinal mutagenic impact of Chernobyl radiological contamination in Hungary.

SO Mutagenesis. 1991 Jul. 6(4). P 285-8.

JT MUTAGENESIS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The genetic consequences of radioactive fall-out deposition from the Chernobyl (USSR) accident in Hungary was evaluated as a part of the ongoing programme on the population-based Hungarian Surveillance of Germinal Mutations. The surveillance is based on three groups of indicator conditions: 15 sentinel anomalies (indicators of germinal dominant gene mutations), Down's syndrome (an indicator of germinal numerical and structural chromosomal mutations) and unidentified multiple congenital abnormalities (indicators of germinal dominant gene and chromosomal mutations). Cases with these indicator conditions were selected from the material of the Hungarian Congenital Abnormality *Registry.* After the diagnostic accuracies were checked, familial and sporadic cases were separated. Only the latter group was evaluated for evidence of new mutations. The analysis did not reveal any measurable germinal mutagenic effects of the Chernobyl accident. Furthermore, there were no significant differences in the rates of these three groups of indicator conditions between regions with higher and lower increased background *radiation.* Author-abstract.

MJ *ABNORMALITIES-RADIATION-INDUCED:* epidemiology (ep). ACCIDENTS.
 DOWN-SYNDROME: genetics (ge). MUTATION. NUCLEAR-REACTORS.
 RADIATION-INJURIES: epidemiology (ep).
 MN ABNORMALITIES-MULTIPLE: epidemiology (ep). CHROMOSOMES:
 radiation-effects (re). DOWN-SYNDROME: epidemiology (ep). FEMALE.
 HUMAN. HUNGARY. MALE. STATISTICS. UKRAINE.
 SB Priority Journals (M).
 YR 1991.
 IS 0267-8357. MUG.
 CP ENGLAND (Z1.542.363.300).
 IM 9202.
 ND ENTRY DATE: 911223.
 CLASS UPDATE: 92.

75

AN 92047998. 92000.
 AU Prisyazhiuk-A. Pjatak-O-A. Buzanov-V-A. Reeves-G-K. Beral-V.
 TI Cancer in the Ukraine, post-Chernobyl `letter:.
 SO Lancet. 1991 Nov 23. 338(8778). P 1334-5.
 JT LANCET.
 PT LETTER (LET).
 LG English (EN).
 MJ ACCIDENTS. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep).
 NUCLEAR-REACTORS. RADIOACTIVE-FALLOUT: adverse-effects (ae).
 MN ADOLESCENCE. ADULT. AGE-FACTORS. AGED. CHILD. CHILD-PRESCHOOL.
 HUMAN. INCIDENCE. INFANT. INFANT-NEWBORN. MIDDLE-AGE.
 REGISTRIES. TIME-FACTORS. UKRAINE: epidemiology (ep).
 RN 0 -- Radioactive-Fallout.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.
 IS 0023-7507. L0S.
 CP ENGLAND (Z1.542.363.300).
 IM 9202.
 ND ENTRY DATE: 911219.

76

AN 92027193. 92000.
 AU Sener-S-F. Fremgen-A. Imperato-J-P. Sylvester-J. Chmiel-J-S.
 IN Cancer Incidence and End Results Committee, American Cancer Society,
 Chicago, Illinois 60603.
 TI Pancreatic cancer in Illinois. A report by 88 hospitals on 2,401
 patients diagnosed 1978-84.
 SO Am-Surg. 1991 Aug. 57(8). P 490-5.
 JT AMERICAN SURGEON.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A retrospective study of survival results for pancreatic cancer was
 performed. The study had two objectives: 1) to relate the extent of
 disease and management to survival, and 2) to determine whether newer

treatment combinations have altered prognosis. Cancer registrars from 88 Illinois hospitals reviewed original medical records and submitted standardized report forms on 2,401 patients diagnosed between 1978-84. Three-year survival time was longer after laparotomy/bypass plus *radiation/chemotherapy* than for laparotomy/bypass alone (P less than .02). But the difference in survival between resection versus resection, *radiation,* and chemotherapy was not significant (P = .16). After resection, the median survival for 78 Stage I patients was 12.5 months, whereas for 181 Stage I patients after laparotomy/bypass it was 6.8 months (P less than .00001). For patients without metastases, 3-year survival was significantly better for 249 patients in whom cancer was resected versus 568 unresected patients (P less than .001). Survival was longer for 568 unresected patients without gross metastases than for 954 patients with metastatic disease found at laparotomy (P less than .05). From this study the authors concluded that: 1) since 3-year survival results were higher than expected after resection for localized cancers, resection is still desirable when it can be done with acceptable complication risks, and 2) the use of multiple treatment modalities for pancreatic cancer warrants further study in organized trials. Author-abstract.

MJ ANTINEOPLASTIC-AGENTS: therapeutic-use (tu). PANCREATECTOMY: standards (st). PANCREATIC-NEOPLASMS: mortality (mo). RADIOTHERAPY: standards (st). STENTS: standards (st).

MN COMBINED-MODALITY-THERAPY. HUMAN. ILLINOIS: epidemiology (ep). NEOPLASM-STAGING. PANCREATIC-NEOPLASMS: pathology (pa), therapy (th). PROGNOSIS. *REGISTRIES.* RETROSPECTIVE-STUDIES. SURVIVAL-ANALYSIS. SURVIVAL-RATE. TREATMENT-OUTCOME.

RN 0 -- Antineoplastic-Agents.

SB Priority Journals (M).

YR 1991.

IS 0003-1348. 43E.

CP UNITED-STATES (Z1.107.567.875).

IM 9201.

ND ENTRY DATE: 911107.

77

AN 92003274. 92000.

AU Czeizel-A-E.

IN Department of Human Genetics and Teratology, WHO Collaborating Centre for the Community Control of Hereditary Diseases, National Institute of Hygiene, Budapest, Hungary.

TI Incidence of legal abortions and congenital abnormalities in Hungary.

SO Biomed-Pharmacother. 1991. 45(6). P 249-54.

JT BIOMEDICINE AND PHARMACOTHERAPY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The annual and monthly distributions of congenital abnormalities and pregnancy outcomes as confounding factors were evaluated in Hungary in reflection of the accident at the Chernobyl reactor. The

different congenital abnormality entities and the components of fetal *radiation* syndrome did not show a higher rate after the Chernobyl accident in the data-set of the Hungarian Congenital Abnormality *Registry.* Among confounding factors, the rate of induced abortions did not increase after the Chernobyl accident in Hungary. In the 9th month after the peak of public concern (May and June, 1986) the rate of livebirths decreased. Three indicator conditions: 15 sentinel anomalies as indicators of germinal dominant gene mutations, Down syndrome as an indicator of germinal numerical and structural chromosomal mutations, and unidentified multiple congenital abnormalities as indicators of germinal dominant gene and chromosomal mutations were selected from the material of the Hungarian Congenital Abnormality *Registry.* Diagnoses were checked, familial and sporadic cases were separated and only the sporadic cases were evaluated. The analysis of indicator conditions did not reveal any measurable germinal mutagenic effect of the Chernobyl accident in Hungary.

Author-abstract.

MJ *ABNORMALITIES-RADIATION-INDUCED:* etiology (et). ABORTION-LEGAL: statistics-and-numerical-data (sn).ACCIDENTS: statistics-and-numerical-data (sn). NUCLEAR-REACTORS: statistics-and-numerical-data (sn).
 MN *ABNORMALITIES-RADIATION-INDUCED:* epidemiology (ep). FEMALE. HUMAN. HUNGARY: epidemiology (ep). INFANT-NEWBORN. PREGNANCY. PREGNANCY-OUTCOME: epidemiology (ep). UKRAINE.
 SB Priority Journals (M).
 YR 1991.
 IS 0753-3322. A59.
 CP FRANCE (Z1.542.286).
 IM 9201.
 ND ENTRY DATE: 911107.

78

AN 92003272. 92000.
 AU Irgens-L-M. Lie-R-T. Ulstein-M. Skeie-Jensen-T. Skjaerven-R. Sivertsen-F. Reitan-J-B. Strand-F. Strand-T. Egil-Skjeldestad-F.
 IN Medical Birth *Registry* of Norway, University of Bergen.
 TI Pregnancy outcome in Norway after Chernobyl `published erratum appears in Biomed Pharmacother 1991;45(9):428:.
 SO Biomed-Pharmacother. 1991. 45(6). P 233-41.
 JT BIOMEDICINE AND PHARMACOTHERAPY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Pregnancy outcome has been studied in terms of legal abortions, early spontaneous abortions and total number of pregnancies (in an ad hoc study covering 6 counties) as well as various perinatal health problems (on the basis of routinely recorded data for epidemiological surveillance from the Medical Birth *Registry* of Norway). Apparently, no effects were observed in terms of an increased occurrence of legal abortions, while spontaneous abortions increased from 7.2% of all pregnancies during the last 12 months before the accident to 8.3%

after the accident `corrected:'. At the same time, the total number of pregnancies somewhat decreased. Based on monthly measurements in each municipality of external and internal (food-based) doses, dose-response associations were assessed for a number of perinatal health problems. No associations were observed. Author-abstract.

MJ ACCIDENTS: statistics-and-numerical-data (sn).
NUCLEAR-REACTORS: statistics-and-numerical-data (sn).
PREGNANCY-OUTCOME: epidemiology (ep).
MN ABORTION: epidemiology (ep). ABORTION-LEGAL:
statistics-and-numerical-data
(sn). DOSE-RESPONSE-RELATIONSHIP-RADIATION. FEMALE. HUMAN.
INFANT-NEWBORN. INFANT-NEWBORN-DISEASES: epidemiology (ep). NORWAY:
epidemiology (ep). PREGNANCY. UKRAINE.
SB Priority Journals (M).
YR 1991.
IS 0753-3322. A59.
CP FRANCE (Z1.542.286).
IM 9201.
ND ENTRY DATE: 911107.
LAST REVISION DATE: 920330.

79

AN 91374725. 91000.
AU Howard-L. Heaphey-L. Fleming-C-R. Lininger-L. Steiger-E.
IN Division of Clinical Nutrition, Albany Medical Center, New York
12208.
TI Four years of North American *registry* home parenteral nutrition
outcome data and their implications for patient management.
SO JPEN-J-Parenter-Enteral-Nutr. 1991 Jul-Aug. 15(4). P 384-93.
JT JPEN. JOURNAL OF PARENTERAL AND ENTERAL NUTRITION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The OASIS *Registry* started annual collection of longitudinal data on patients on home parenteral nutrition (HPN) in 1984. This report describes outcome profiles on 1594 HPN patients in seven disease categories. Analysis showed clinical outcome was principally a reflection of the underlying diagnosis. Patients with Crohn's disease, ischemic bowel disease, motility disorders, *radiation* enteritis, and congenital bowel dysfunction all had a fairly long-term clinical outcome, whereas those with active cancer and acquired immunodeficiency syndrome (AIDS) had a short-term outcome. The long-term group had a 3-year survival rate of 65 to 80%, they averaged 2.6 complications requiring hospitalization per year, and 49% experienced complete rehabilitation. The short-term group had a mean survival of 6 months; they averaged 4.6 complications per year and about 15% experienced complete rehabilitation. The *registry* data also indicated HPN was used for 19,700 patients in 1987 with therapy growth averaging about 8% per year. This growth was chiefly from new cancer patients. The number of new patients with long-term disorders in whom HPN was initiated appeared rather constant. We conclude that

these clinical outcome assessments justify HPN for long-term patients, but the utility and appropriateness of HPN for the cancer and AIDS patients remains uncertain and requires further study. Medical, social, and fiscal aspects of HPN management in long-term and short-term patients appear to involve quite separate considerations. Author-abstract.

MJ HOME-CARE-SERVICES. INTESTINAL-DISEASES: therapy (th). PARENTERAL-NUTRITION.
MN ACQUIRED-IMMUNODEFICIENCY-SYNDROME: therapy (th). ADOLESCENCE. CANADA. CHILD. CHILD-PRESCHOOL. CROHN-DISEASE: therapy (th). EVALUATION-STUDIES. FOLLOW-UP-STUDIES. GASTROINTESTINAL-MOTILITY. HUMAN. INFANT. INTESTINAL-DISEASES: congenital (cn). INTESTINAL-NEOPLASMS: therapy (th). INTESTINES: blood-supply (bs). ISCHEMIA: therapy (th). LONGITUDINAL-STUDIES. QUESTIONNAIRES. *RADIATION-INJURIES:* therapy (th). RETROSPECTIVE-STUDIES. UNITED-STATES.
SB Priority Journals (M).
YR 1991.
IS 0148-6071. KGA.
CP UNITED-STATES (Z1.107.567.875).
IM 9112.
ND ENTRY DATE: 911023.
CLASS UPDATE: 91.

80

AN 91373212. 91000.
AU Takeichi-N. Dohi-K. Yamamoto-H. Ito-H. Mabuchi-K. Yamamoto-T. Shimaoka-K. Yokoro-K.
IN Department of Surgery, Hiroshima University School of Medicine.
TI Parathyroid tumors in atomic bomb survivors in Hiroshima: epidemiological study from registered cases at Hiroshima Prefecture Tumor Tissue *Registry,* 1974-1987.
SO Jpn-J-Cancer-Res. 1991 Aug. 82(8). P 875-8.
JT JAPANESE JOURNAL OF CANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB An examination of registered cases of parathyroid tumor in Hiroshima Prefecture between 1974 and 1987 revealed 23 cases. An epidemiological study showed that the incidence of parathyroid tumors in Hiroshima Prefecture was significantly higher in the total exposed, especially among the proximally exposed (within 2,000 m from the hypocenter), than in the control nonexposed group (P less than 0.001). A similar trend was seen for parathyroid tumor associated with primary hyperparathyroidism. Author-abstract.
MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-WARFARE. PARATHYROID-NEOPLASMS: etiology (et). *REGISTRIES.*
MN HUMAN. INCIDENCE. JAPAN: epidemiology (ep). SUPPORT-NON-U-S-GOVT. TIME-FACTORS.
SB Priority Journals (M). Cancer Journals (X).
YR 1991.

IS 0910-5050. HBA.
CP JAPAN (Z1.252.474.463).
IM 9112.
ND ENTRY DATE: 911024.

81

AN 91356360. 91000.
AU Huda-W. Bews-J. Gordon-K. Sutherland-J-B. Sont-W-N. Ashmore-J-P.
IN Department of Medical Physics, Manitoba Cancer Treatment and Research
Foundation, Winnipeg.
TI Doses and population irradiation factors for Canadian *radiation*
technologists (1978 to 1988).
SO Can-Assoc-Radiol-J. 1991 Aug. 42(4). P 247-52.
JT CANADIAN ASSOCIATION OF RADIOLOGISTS JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Individual and collective *radiation* doses received by Canadian
radiation technologists (RTs) working in diagnostic radiology,
nuclear medicine and radiotherapy are summarized for the period 1978
to 1988. The data were obtained directly from the National Dose
Registry, Department of National Health and Welfare. Over the
11-year study period the mean annual dose equivalent fluctuated
around 0.2, 1.8 and 1.1 mSv for RTs working in diagnostic radiology,
nuclear medicine and radiotherapy respectively. Over the same period
the occupational collective dose equivalent decreased in diagnostic
radiology (by 44%) and radiotherapy (by 35%) and increased in nuclear
medicine (by 45%). Approximately 10,000 RTs are monitored each year,
with an estimated total occupational collective dose equivalent of
about 3.6 person-sieverts. Analysis of dose distribution data showed
that only 1.3% of all monitored RTs received an annual whole-body
dose equivalent greater than the current legal limit for members of
the public (5 mSv). Approximately half of the RTs working in nuclear
medicine and radiotherapy received an annual dose equivalent in
excess of 0.5 mSv; only 7.3% of their diagnostic radiology
counterparts exceeded this level. Demographic data showed a high
preponderance of young women in all three RT classifications, and an
analysis of the *radiation* risks to this occupational group revealed
increases of up to 12% above the risk associated with a "standard"
adult working population exposed to the same collective dose
equivalent. Author-abstract.
MJ OCCUPATIONAL-EXPOSURE. *RADIATION-IONIZING.*
TECHNOLOGY-RADIOLOGIC.
MN ADULT. CANADA. COMPARATIVE-STUDY. FEMALE. HUMAN.
NUCLEAR-MEDICINE. *RADIATION-DOSAGE.* *RADIATION-PROTECTION.*
RADIOLOGY. RADIOTHERAPY.
SB Priority Journals (M).
YR 1991.
IS 0008-2902. CAJ.
CP CANADA (Z1.107.567.176).
IM 9112.

ND ENTRY DATE: 911009.

82

AN 91339683. 91000.

AU Witt-R-L.

IN Department of Surgery, Medical Center of Delaware, Wilmington.

TI Adenoid cystic carcinoma of the minor salivary glands.

SO Ear-Nose-Throat-J. 1991 Apr. 70(4). P 218-22.

JT EAR, NOSE, AND THROAT JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Management of minor salivary gland adenoid cystic carcinoma is a controversial problem. Few clinicians obtain adequate experience in the treatment of this disease, which is often frustrated by early and late distant metastases. Fourteen cases of minor salivary gland adenoid cystic carcinoma recorded in the Delaware *Registry* over a 20-year period (1968 to 1988) were reviewed retrospectively. These cases were evaluated for their duration of symptoms; size, location, and histologic subtype of the lesion; perineural invasion; lymph node metastases; and treatment to determine the relationship of these factors to survival. Location and histologic subtype of the lesion and duration of symptoms were found to have a more significant impact on survival than size of the lesion, perineural invasion, or lymph node metastases. Surgery is the mainstay of therapy for minor salivary gland adenoid cystic carcinoma, with resection that includes disease-free margins but spares function being advocated. Although adjunctive *radiation* therapy has not been shown to increase survival, it is reasonable in lesions with perineural invasion and/or lymph node metastases. Author-abstract.

MJ CYLINDROMA: surgery (su). SALIVARY-GLAND-NEOPLASMS: surgery (su).

MN COMBINED-MODALITY-THERAPY. CYLINDROMA: mortality (mo), pathology (pa). DELAWARE: epidemiology (ep). FEMALE. FOLLOW-UP-STUDIES. HUMAN. LYMPHATIC-METASTASIS. MALE. MIDDLE-AGE. RADIOTHERAPY: standards (st). *REGISTRIES.* SALIVARY-GLAND-NEOPLASMS: mortality (mo), pathology (pa). SURVIVAL-RATE.

YR 1991.

IS 0145-5613. EDF.

CP UNITED-STATES (Z1.107.567.875).

IM 9111.

ND ENTRY DATE: 910924.

83

AN 91331834. 91000.

AU Beitler-J-J. Fass-D-E. Brenner-H-A. Huvos-A. Harrison-L-B. Leibel-S-A. Fuks-Z.

IN Department of *Radiation* Oncology, Memorial Sloan-Kettering Cancer Center, New York, New York.

TI Esthesioneuroblastoma: is there a role for elective neck treatment?

SO Head-Neck. 1991 Jul-Aug. 13(4). P 321-6.

JT HEAD AND NECK.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-OF-REPORTED-CASES (RRC).

LG English (EN).

AB A retrospective review of the Memorial Sloan Kettering Cancer Center experience (MSKCC) with esthesioneuroblastoma was performed. From 1975 to 1985 14 cases were identified. Overall 5- and 10-year survival was 86% and 70%, respectively. Four local failures were observed and 4 neck failures were observed. A review of the literature since 1966 revealed an unexpectedly high incidence of neck failure, and of the 21 of 110 patients with neck failures that were identified through the literature, there were 6 subsequent deaths. Author-abstract. 30 Refs.

MJ HEAD-AND-NECK-NEOPLASMS: therapy (th). NEUROEPITHELIOMA: therapy (th). NOSE-NEOPLASMS: therapy (th). PARANASAL-SINUS-NEOPLASMS: therapy (th).

MN ADULT. AGED. FEMALE. FOLLOW-UP-STUDIES. HEAD-AND-NECK-NEOPLASMS: pathology (pa). HUMAN. MALE. MIDDLE-AGE. NEOPLASM-INVASIVENESS. NEOPLASM-RECURRENCE-LOCAL. NEOPLASM-STAGING. NEUROEPITHELIOMA: pathology (pa), secondary (sc). NOSE-NEOPLASMS: pathology (pa). PARANASAL-SINUS-NEOPLASMS: pathology (pa). *REGISTRIES.* RETROSPECTIVE-STUDIES. SURVIVAL-RATE.

SB Priority Journals (M).

YR 1991.

IS 1043-3074. G1P.

CP UNITED-STATES (Z1.107.567.875).

IM 9111.

ND ENTRY DATE: 910913.

84

AN 91307937. 91000.

AU Hall-P. Holm-L-E. Lundell-G. Bjelkengren-G. Larsson-L-G. Lindberg-S. Tennvall-J. Wicklund-H. Boice-J-D Jr.

IN Department of General Oncology, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden.

TI Cancer risks in thyroid cancer patients.

SO Br-J-Cancer. 1991 Jul. 64(1). P 159-63.

JT BRITISH JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Cancer risks were studied in 834 thyroid cancer patients given 131I (4,551 MBq, average) and in 1,121 patients treated by other means in Sweden between 1950 and 1975. Record-linkage with the Swedish Cancer Register identified 99 new cancers more than 2 years after 131I therapy `standardised incidence ratio (SIR) = 1.43; 95% confidence interval (CI) 1.17-1.75: vs 122 (SIR = 1.19; 95% CI 0.88-1.42) in patients not receiving 131I. In females treated with 131I overall SIR was 1.45 (95% CI 1.14-1.83) and significantly elevated were noted for tumours of the salivary glands, genital organs, kidney and adrenal gland. No elevated risk of a subsequent breast cancer or leukaemia was noted. SIR did not change over time, arguing against

a strong *radiation* effect of ¹³¹I. Organs that were estimated to have received more than 1.0 Gy had together a significantly increased risk of a subsequent cancer following ¹³¹I treatment (SIR = 2.59; n = 18). A significant trend was seen for increasing activities of ¹³¹I with highest risk for patients exposed to greater than or equal to 3,664 MBq (SIR = 1.80; 95% CI 1.20-2.58). No specific cancer or group of cancers could be convincingly linked to high-dose ¹³¹I exposures since SIR did not increase after 10 years of observation. However, upper confidence intervals could not exclude levels of risk that would be predicted based on data from the study of atomic bomb survivors. We conclude that the current practice of extrapolating the effects of high-dose exposures to lower-dose situations is unlikely to seriously underestimate *radiation* hazards for low LET *radiation.* Author-abstract.

MJ IODINE-RADIOISOTOPES: therapeutic-use (tu).

NEOPLASMS-RADIATION-INDUCED: etiology (et). RADIOTHERAPY: adverse-effects (ae). THYROID-NEOPLASMS: radiotherapy (rt).

MN FEMALE. HUMAN. MALE. MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S. SWEDEN. THYROID-NEOPLASMS: surgery (su). THYROIDECTOMY.

RN 0 -- Iodine-Radioisotopes.

SB Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0007-0920. AV4.

CP ENGLAND (Z1.542.363.300).

IM 9110.

ND ENTRY DATE: 910828.

CLASS UPDATE: 92.

NO N01CP51034. GRANT: CP. INSTITUTE: NCI.

85

AN 91303596. 91000.

AU Andersson-M. Storm-H-H. Mouridsen-H-T.

IN Danish Cancer *Registry,* Institute of Cancer Epidemiology, Copenhagen.

TI Incidence of new primary cancers after adjuvant tamoxifen therapy and radiotherapy for early breast cancer.

SO J-Natl-Cancer-Inst. 1991 Jul 17. 83(14). P 1013-7.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The incidence of new primary cancers was evaluated in 3538 postmenopausal patients who had received surgical treatment for primary breast cancer. Of these patients, 1828 with a low risk of recurrence received no further treatment. High-risk patients were randomly assigned to one of two groups. The first group (n = 846) received postoperative radiotherapy, while the second group (n = 864) received radiotherapy plus tamoxifen at a dose of 30 mg given daily for 48 weeks. The median observation time was 7.9 years. In comparison with the number of new cancers in the general population, the number of new cancers in the three groups was elevated mostly due

to a high number of cancers of the contralateral breast and of colorectal cancers in the high-risk groups. The cumulative risk of nonlymphatic leukemia was increased among patients who received postoperative radiotherapy ($P = .04$). Cancer incidence in the high-risk tamoxifen-treated group relative to that in the high-risk group not treated with tamoxifen was not significant (1.3). No protective effect of tamoxifen on the opposite breast was seen (rate ratio for breast cancer = 1.1), but a tendency to an elevated risk of endometrial cancer was observed (rate ratio = 3.3; 95% confidence interval = 0.6-32.4). Continued and careful follow-up of women treated with tamoxifen is necessary to clarify the potential cancer-suppressive or cancer-promoting effects of this drug.

Author-abstract.

MJ BREAST-NEOPLASMS: drug-therapy (dt), radiotherapy (rt).
NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep). TAMOXIFEN:
adverse-effects (ae).
MN AGED. BREAST-NEOPLASMS: surgery (su). COMBINED-MODALITY-THERAPY.
FEMALE. FOLLOW-UP-STUDIES. HUMAN. INCIDENCE.
LEUKEMIA-RADIATION-INDUCED: etiology (et). MIDDLE-AGE.
RADIOOTHERAPY: adverse-effects (ae). TAMOXIFEN: therapeutic-use (tu).
UTERINE-NEOPLASMS: chemically-induced (ci).
RN 10540-29-1 -- Tamoxifen.
SB Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0027-8874. J9J.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910820.

86

AN 91292475. 91000.
AU Zack-M. Adami-H-O. Ericson-A.
IN Centers for Disease Control, Atlanta, Georgia 30333.
TI Maternal and perinatal risk factors for childhood leukemia.
SO Cancer-Res. 1991 Jul 15. 51(14). P 3696-701.
JT CANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This report describes an exploratory population-based study of maternal and perinatal risk factors for childhood leukemia in Sweden. The Swedish National Cancer *Registry* ascertained 411 cases in successive birth cohorts from 1973 through 1984 recorded in the Swedish Medical Birth *Registry.* Using the latter, we matched five controls without cancer to each case by sex and month and year of birth. Mothers of children with leukemia were more likely to have been exposed to nitrous oxide anesthesia during delivery than mothers of controls `odds ratio (OR) = 1.3; 95% confidence interval (CI) = 1.0, 1.6:. Children with leukemia were more likely than controls to have Down's syndrome (OR = 32.5; 95% CI = 7.3, 144.0) or cleft lip or cleft palate (OR = 5.0; 95% CI = 1.0, 24.8); to have had a diagnosis

associated with difficult labor but unspecified complications (OR = 4.5; 95% CI = 1.1, 18.2) or with other conditions of the fetus or newborn (OR = 1.5; 95% CI = 1.1, 2.1), specifically, uncomplicated physiological jaundice (OR = 1.9; 95% CI = 1.2, 2.9); or to have received supplemental oxygen (OR = 2.6; 95% CI = 1.3, 4.9). Because multiple potential risk factors were analyzed in this study, future studies need to check these findings. We did not confirm the previously reported higher risks for childhood leukemia associated with being male, having a high birth weight, or being born to a woman of advanced maternal age. Author-abstract.

MJ LEUKEMIA: etiology (et).

MN CHILD. CHILD-PRESCHOOL. CLEFT-PALATE: complications (co). FEMALE. FETUS: drug-effects (de), *radiation-effects* (re). HUMAN. INFANT. INFANT-NEWBORN. JAUNDICE-NEONATAL: complications (co). MALE. NITROUS-OXIDE: adverse-effects (ae). OXYGEN: adverse-effects (ae). PREGNANCY. RISK-FACTORS. SEX-FACTORS.

RN 10024-97-2 -- Nitrous-Oxide.

7782-44-7 -- Oxygen.

SB Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0008-5472. CNF.

CP UNITED-STATES (Z1.107.567.875).

IM 9110.

ND ENTRY DATE: 910812.

87

AN 91292400. 91000.

AU Wiklund-T-A. Blomqvist-C-P. Raty-J. Elomaa-I. Rissanen-P. Miettinen-M.

IN Department of Radiotherapy and Oncology, Helsinki University Central Hospital, Finland.

TI Postirradiation sarcoma. Analysis of a nationwide cancer *registry* material.

SO Cancer. 1991 Aug 1. 68(3). P 524-31.

JT CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Thirty-three cases of postirradiation sarcoma (PIS) from the files of the Finnish Cancer *Registry* were analyzed. The most frequent first primary tumors were cancers of the breast (seven cases) and female reproductive organs (13 cases). Five patients had a childhood cancer. The median total *radiation* dose at the site of the PIS was 3600 cGy (1600 cGy to 11200 cGy). The median interval from start of *radiation* therapy to detection of PIS was 13.2 years (3.4 to 22.8 years). The PIS was of soft tissue origin in 25 of 33 cases. The most frequent histologic types were osteosarcoma (ten cases, including four extraskkeletal tumors), malignant fibrous histiocytoma (ten cases), and fibrosarcoma (six cases). The overall crude 5-year survival rate was 29% (calculated from the start of treatment for PIS), and for patients initially treated with either radical surgery

or combined marginal surgery and postoperative irradiation it was 67%. The authors conclude that there is a chance for cure for radically treated patients with postirradiation sarcoma that emphasizes the importance of regular long-term follow-up of cancer patients. Author-abstract.

MJ BONE-NEOPLASMS: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). RADIOTHERAPY: adverse-effects (ae). SARCOMA: etiology (et). SOFT-TISSUE-NEOPLASMS: etiology (et).
MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. BONE-NEOPLASMS: therapy (th). BREAST-NEOPLASMS: radiotherapy (rt). CHILD. FEMALE. FINLAND. GENITAL-NEOPLASMS-FEMALE: radiotherapy (rt). HUMAN. MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* therapy (th). RADIOTHERAPY-DOSAGE. *REGISTRIES.* SARCOMA: therapy (th). SOFT-TISSUE-NEOPLASMS: therapy (th). SUPPORT-NON-U-S-GOVT. TIME-FACTORS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9110.
ND ENTRY DATE: 910815.

88

AN 91287436. 91000.
AU Lindelof-B. Sigurgeirsson-B. Tegner-E. Larko-O. Johannesson-A. Berne-B. Christensen-O-B. Andersson-T. Torngren-M. Molin-L. et al.
IN Department of Dermatology, Karolinska Hospital, Stockholm, Sweden.
TI PUVA and cancer: a large-scale epidemiological study `see comments:'.
CM Comment in: Lancet 1991 Sep 14;338(8768):703-4.
SO Lancet. 1991 Jul 13. 338(8759). P 91-3.
JT LANCET.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB There is concern about the long-term carcinogenic effects of psoralen and ultraviolet A *radiation* (PUVA) therapy for treatment of skin disorders. A study of 4799 Swedish patients (2343 males, 2056 females; mean age at first treatment 45.3 years, range 6-93; mean follow-up 6.9 years males, 7.2 years females) who received PUVA between 1974 and 1985 showed a dose-dependent increase in the risk of squamous cell cancer of the skin. Male patients who had received more than 200 treatments had over 30 times the incidence of squamous cell cancer found in the general population. Significant increases (p less than 0.05) were also found in the incidences of respiratory cancer in males and females, pancreatic cancer in males, and kidney and colonic cancer in females. This study confirms previous reports of a dose-dependent increase in the incidence of squamous cell cancer in patients treated with PUVA. Author-abstract.
MJ CARCINOMA-SQUAMOUS-CELL: etiology (et). PUVA-THERAPY:

adverse-effects (ae). SKIN-NEOPLASMS: etiology (et).
 MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER.
 CARCINOMA-SQUAMOUS-CELL: epidemiology (ep). CHILD.
 COMPARATIVE-STUDY. *DOSE-RESPONSE-RELATIONSHIP-RADIATION.* FEMALE.
 FOLLOW-UP-STUDIES. HUMAN. INCIDENCE. MALE. MIDDLE-AGE.
 REGISTRIES. RISK-FACTORS. SKIN-NEOPLASMS: epidemiology (ep).
 SWEDEN: epidemiology (ep).
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
 Journals (X).
 YR 1991.
 IS 0023-7507. L0S.
 CP ENGLAND (Z1.542.363.300).
 IM 9110.
 ND ENTRY DATE: 910808.
 LAST REVISION DATE: 920108.

89

AN 91285937. 91000.
 AU Taghian-A. de-Vathaire-F. Terrier-P. Le-M. Auquier-A.
 Mouriesse-H. Grimaud-E. Sarrazin-D. Tubiana-M.
 IN Department of *Radiation* Therapy, Institut Gustave Roussy, Villejuif,
 France.
 TI Long-term risk of sarcoma following *radiation* treatment for breast
 cancer.
 SO Int-J-Radiat-Oncol-Biol-Phys. 1991 Jul. 21(2). P 361-7.
 JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Between 1954 and 1983, 7620 patients were treated for breast
 carcinoma at Institut Gustave Roussy (France). Of these patients,
 6919 were followed for at least 1 year. Out of these, 11 presented
 with sarcomas thought to be induced by irradiation, 2 of which were
 Stewart-Treves Syndrome, and 9 of which were sarcomas within the
 irradiated fields. All histological slides were reviewed and a
 comparison with those of breast cancer was done. The sites of these
 sarcomas were: parietal wall, 1 case; second costal cartilage, 1
 case; infraclavicular region, 1 case; supraclavicular region, 2
 cases; internal third of the clavicle, 2 cases; axillary region 2
 cases; and the internal side of the upper arm (Stewart-Treves
 syndrome), 2 cases. The median age of these 11 patients at the
 diagnosis of sarcomas was 65.8 (49-83). The mean latent period was
 9.5 years (4-24). Three patients underwent radical mastectomy and
 nine modified radical mastectomy. Only one patient received
 chemotherapy. The *radiation* doses received at the site of the
 sarcoma were 45 Gy/18 fr. for 10 cases and 90-100 Gy for 1 case (due
 to overlapping between two fields). The histology was as follows:
 malignant fibrous histiocytoma, 5 cases; fibrosarcoma, 3 cases;
 lymphangiosarcoma, 2 cases; and osteochondrosarcoma, 1 case. The
 median survival following diagnosis of sarcoma was 2.4 years (4
 months-9 years). Two patients are still alive: one with recurrence

of her breast cancer, the other in complete remission, with 7 and 3 years follow-up, respectively. All other patients died from their sarcomas. The cumulative incidence of sarcoma following irradiation of breast cancer was 0.2% (0.09-0.47) at 10 years. The standardized incidence ratio (SIR) of sarcoma (observed n# of cases (Obs)/expected n# of cases (Exp) computed from the Danish Cancer *Registry* for the same period) was 1.81 (CI 0.91-3.23). This is significantly higher than one, with a $p = 0.03$ (One Tailed Exact Test). The mean annual excess (Obs-Exp)/100.000 person-years at risk during the same period/(100,000) was 9.92. This study suggests that patients treated by *radiation* for breast cancer have a risk of subsequent sarcomas that is higher than the general population. However, the benefit from adjuvant *radiation* therapy in the treatment of breast cancer exceeds the risk of second cancer; therefore, the potential of *radiation-induced* sarcomas should not be a factor in the selection of treatment for patients with breast cancer. Author-abstract.

MJ BREAST-NEOPLASMS: radiotherapy (rt). *NEOPLASMS-RADIATION-INDUCED*: etiology (et). RADIOTHERAPY: adverse-effects (ae). SARCOMA: etiology (et).

MN ADULT. AGED. BREAST-NEOPLASMS: epidemiology (ep). FEMALE. FIBROSARCOMA: epidemiology (ep), etiology (et). FRANCE: epidemiology (ep). HISTIOCYTOMA: epidemiology (ep), etiology (et). HUMAN. LYMPHANGIOSARCOMA: epidemiology (ep), etiology (et). MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED*: epidemiology (ep). OSTEOSARCOMA: epidemiology (ep), etiology (et). RETROSPECTIVE-STUDIES. SARCOMA: epidemiology (ep). SUPPORT-NON-U-S-GOVT. TIME-FACTORS.

SB Priority Journals (M). Cancer Journals (X).

YR 1991.

IS 0360-3016. G97.

CP UNITED-STATES (Z1.107.567.875).

IM 9110.

ND ENTRY DATE: 910808.

90

AN 91242999. 91000.

AU Andersson-M. Engholm-G. Ennow-K. Jessen-K-A. Storm-H-H.

IN Department of Oncology, Finsen Institute/Copenhagen University Hospital, Denmark.

TI Cancer risk among staff at two radiotherapy departments in Denmark.

SO Br-J-Radiol. 1991 May. 64(761). P 455-60.

JT BRITISH JOURNAL OF RADIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB In comparison with the general Danish population, the relative risk (RR) for cancer among staff members employed in two radiotherapy departments in Denmark during 1954-1982 and alive on 1 April 1968 was assessed by linkage to the Danish Cancer *Registry.* All staff had been monitored with film dosimeters for exposure to *radiation.* The study cohort consisted of 4151 persons, accruing 49553 person-years at risk. The collective *radiation* dose was 76.54 manSv and the mean

dose 18.4 mSv. A total of 163 cancer cases were observed with 152.3 expected. The risks for cancers usually considered to be radiogenic were not elevated. A significant excess of prostatic cancer was observed (five cases, relative risk, 6.02; 95% confidence interval, 1.94-14.06); this is likely to be a chance finding. No relation was observed between *radiation* dose or years of exposure and cancer risk, but a weak non-significant increase in risk with time since first exposure was seen. Author-abstract.

MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep).
OCCUPATIONAL-DISEASES: epidemiology (ep). PERSONNEL-HOSPITAL:
statistics-and-numerical-data (sn). RADIOLOGY-DEPARTMENT-HOSPITAL:
manpower (ma).
MN ADULT. COHORT-STUDIES. DENMARK. FEMALE. HUMAN. MALE. NEOPLASMS:
radiotherapy (rt).OCCUPATIONAL-EXPOSURE: adverse-effects (ae).
RADIATION-DOSAGE. RISK. TIME-FACTORS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1991.
IS 0007-1285. B28.
CP ENGLAND (Z1.542.363.300).
IM 9109.
ND ENTRY DATE: 910703.

91

AN 91219901. 91000.
AU Borja-Aburto-V-H. Bustamante-Montes-P. Garcia-Sancho-M-C.
Villa-Romero-A-R.
IN Departamento de Epidemiologia, Escuela de Salud Publica de Mexico,
D.F.
TI `Ionizing *radiation* at low doses and cancer: epidemiological
controversy:.
TT Radiacion ionizante a dosis bajas y cancer: controversia
epidemiologica.
SO Rev-Invest-Clin. 1990 Oct-Dec. 42(4). P 312-6.
JT REVISTA DE INVESTIGACION CLINICA.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG Spanish (SP).
AB The carcinogenic effects of ionizing *radiation* at high doses are un
questionable. On the other hand, the deleterious exposure effects to
low doses have not been totally proven, mainly due to methodological
problems and difficulty in measuring reliable dose exposure. In this
paper, some recent studies examining the effects of ionizing
radiation in some occupational groups are reviewed and discussed.
Also, the main areas of epidemiologic controversy are stressed. For
future experiences, prospective, longitudinal studies with
occupational cohorts, measuring *radiation* exposure with adequate
registry and follow-up, are suggested. Author-abstract. 20 Refs.
MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep).
MN *BACKGROUND-RADIATION.* CASE-CONTROL-STUDIES. COHORT-STUDIES.
ENGLISH-ABSTRACT. ENVIRONMENTAL-EXPOSURE. HUMAN. LIFE-TABLES.

NEOPLASMS-RADIATION-INDUCED: etiology (et). NEW-HAMPSHIRE:
epidemiology (ep). NUCLEAR-REACTORS. OCCUPATIONAL-DISEASES:
epidemiology (ep), etiology (et), mortality (mo).
OCCUPATIONAL-EXPOSURE. POWER-PLANTS. PROPORTIONAL-HAZARDS-MODELS.
RADIATION-DOSAGE. TENNESSEE: epidemiology (ep). URANIUM.
WASHINGTON: epidemiology (ep).

RN 7440-61-1 -- Uranium.

YR 1990.

IS 0034-8376. SCH.

CP MEXICO (Z1.107.567.589).

IM 9108.

ND ENTRY DATE: 910606.

92

AN 91217787. 91000.

AU Shimaoka-K. Akiba-S.

IN *Radiation* Effects Research Foundation, Nagasaki, Japan.

TI Malignancies in atomic bomb survivors in Hiroshima and Nagasaki.

SO J-Nucl-Med-Allied-Sci. 1990 Oct-Dec. 34(4). P 254-9.

JT JOURNAL OF NUCLEAR MEDICINE AND ALLIED SCIENCES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep).

NEOPLASMS-RADIATION-INDUCED: epidemiology (ep). NUCLEAR-WARFARE.

MN COHORT-STUDIES. FEMALE. HUMAN. JAPAN: epidemiology (ep). MALE.

REGISTRIES. RISK-FACTORS. UNITED-STATES.

YR 1990.

IS 0392-0208. JEG.

CP ITALY (Z1.542.489).

IM 9108.

ND ENTRY DATE: 910606.

93

AN 91214861. 91000.

AU Sedlack-J-D. Nauta-R-J.

IN Department of Surgery, Georgetown University School of Medicine.

TI Primary hepatocellular carcinoma: hospital based epidemiologic study.

SO HPB-Surg. 1990. 3(1). P 11-8; discussion 18-9.

JT HPB SURGERY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB From 1968-1985 a series of thirty-seven patients with primary hepatocellular carcinoma was collected from the tumor *registry* of the Fairfax County Hospital, in the metropolitan Washington, D.C. area. These patients were found to have a mean age at diagnosis of sixty-two (males) to sixty-six (females). Thirty per cent of patients were previously cirrhotic and nineteen per cent had a history of viral hepatitis. There were no patients with documented birth control pill or steroid use. The most common presenting symptoms were anorexia and right upper quadrant pain. Liver-spleen

scan was the most commonly used diagnostic study, but by the 1980's CT scanning was usually diagnostic. Both alkaline phosphatase and serum glutamylxalotransferase were reliably elevated in twenty-six of twenty-eight and twenty-one of twenty-four patients respectively. Forty-eight per cent of patients with tumor histology reported had multicentric tumors, thirty-eight per cent had nodular tumors, and fourteen per cent had diffuse disease. Survival was as dismal in this as in other studies with a mean of seventy-nine days. No significant difference was noted between cirrhotic and non-cirrhotic patients. Chemotherapy and *radiation* therapy did not significantly impact upon survival. Finally, a cohort analysis was done and a possibly significant peak in incidence of primary hepatocellular carcinoma was seen in men born from about 1911 through 1920. The authors noted that these males were in the group of draft eligible persons for World War II and questioned a link between veteran status and later development of HCC. Author-abstract.

MJ HEPATOMA: epidemiology (ep). LIVER-NEOPLASMS: epidemiology (ep).
MN ADULT. AGED. COHORT-STUDIES. DISTRICT-OF-COLUMBIA: epidemiology (ep). DOMINICAN-REPUBLIC: ethnology (eh). FEMALE. HUMAN. KOREA: ethnology (eh). MALE. MIDDLE-AGE.
SB Priority Journals (M).
YR 1990.
IS 0894-8569. AYP.
CP SPAIN (Z1.542.846).
IM 9108.
ND ENTRY DATE: 910604.

94

AN 91191442. 91000.
AU Bergman-L. Dekker-G. van-Leeuwen-F-E. Huisman-S-J. van-Dam-F-S. van-Dongen-J-A.
IN Department of Epidemiology, The Netherlands Cancer Institute, Amsterdam.
TI The effect of age on treatment choice and survival in elderly breast cancer patients.
SO Cancer. 1991 May 1. 67(9). P 2227-34.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB To investigate the effect of age on treatment choice and survival in patients with breast cancer, data from the cancer *registry* of the Netherlands Cancer Institute (NKI, Amsterdam, The Netherlands) on 611 women have been analyzed. All patients 55 years and older admitted to the NKI for primary treatment of breast cancer between 1981 and 1986 were selected. For women 75 years and older, physicians were less likely to use treatment of adjuvant *radiation* therapy after a mastectomy and more often employed primary hormonal therapy only for local stage disease than for younger patients. Life-table analysis showed that disease-specific survival at 7 years for patients 65 through 74 years of age was significantly better (65%) than that of

the youngest (55%) and the oldest age group (50%). In multivariate regression analysis (Cox), age older than 74 years was significantly and independently associated with a shorter disease-specific survival as compared with patients younger than 75 years. This difference in survival, however, does not seem to be the result of the difference in treatment between the age groups, but suggests an influence of age-related factors such as comorbid diseases and weak physical condition, which manifest themselves most strongly in the oldest age category and make the older woman more vulnerable to the course of malignant disease. Author-abstract.

MJ AGING. BREAST-NEOPLASMS: therapy (th).
MN AGE-FACTORS. AGED. BREAST-NEOPLASMS: mortality (mo), pathology (pa). FEMALE. HUMAN. MIDDLE-AGE. NEOPLASM-METASTASIS. NEOPLASM-RECURRENCE-LOCAL: therapy (th). NEOPLASM-STAGING. NETHERLANDS. *REGISTRIES.* REGRESSION-ANALYSIS. SURVIVAL-ANALYSIS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9107.
ND ENTRY DATE: 910515.

95

AN 91168119. 91000.
AU LeRoux-P-D. Berger-M-S. Elliott-J-P. Tamimi-H-K.
IN Department of Neurosurgery, University of Washington Medical Center, Seattle 98195.
TI Cerebral metastases from ovarian carcinoma.
SO Cancer. 1991 Apr 15. 67(8). P 2194-9.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Apart from choriocarcinoma, involvement of the central nervous system (CNS) by gynecologic malignancy is rare. A 10-year retrospective review at the University of Washington Medical Center (Seattle, WA) and Swedish Hospital and Medical Center Tumor *Registry* (Seattle, WA) identified 14 patients with cerebral metastases from ovarian carcinoma. Median age at diagnosis of cerebral metastases was 52.5 years. Median interval from the diagnosis of ovarian carcinoma to the diagnosis of CNS metastases was 14.5 months. Seven patients had received cisplatin therapy before CNS relapse. Seven patients underwent second-look procedures before developing CNS metastases; in three, results were negative. Eight patients had evidence of extraperitoneal spread to other sites at the time of CNS relapse. Clinical manifestations included motor weakness, seizures, headache, confusion, and speech disturbance. All lesions were contrast enhancing on computed tomography (CT) scans and were located in the cerebral hemispheres. Nine patients had single lesions, five of whom underwent surgical resection of the lesion with histologic

confirmation of metastases from the primary site. Median survival was 2 months in patients receiving *radiation* therapy alone and 17 months in patients who received surgery and *radiation.* Median survival of the entire series was 3 months. The presence of multiple cerebral metastases or evidence of extraperitoneal spread elsewhere in the body was adversely associated with survival. The prognosis of patients with cerebral metastases from ovarian carcinoma appears poor. However, early diagnosis by routine CT scanning followed by surgical resection and *radiation* may improve overall survival in a select group of patients. Author-abstract.

MJ BRAIN-NEOPLASMS: secondary (sc). CARCINOMA: secondary (sc). OVARIAN-NEOPLASMS.
MN ADULT. BRAIN-NEOPLASMS: mortality (mo), radiography (ra), therapy (th). CARCINOMA: diagnosis (di), mortality (mo), therapy (th). CISPLATIN: therapeutic-use (tu). COMBINED-MODALITY-THERAPY. FEMALE. HUMAN. LUNG-NEOPLASMS: secondary (sc). MIDDLE-AGE. NEOPLASM-STAGING. OVARIAN-NEOPLASMS: drug-therapy (dt), mortality (mo), pathology (pa). RETROSPECTIVE-STUDIES. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. SURVIVAL-RATE. TOMOGRAPHY-X-RAY-COMPUTED.
RN 15663-27-1 -- Cisplatin.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1991.
IS 0008-543X. CLZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9106.
ND ENTRY DATE: 910424.
NO K08NS0125301. GRANT: NS. INSTITUTE: NINDS.

96

AN 91156874. 91000.
AU Cristoffanini-A. Zapata-C. Leon-A. Salas-P.
IN Instituto de Investigaciones Hematologicas Rodolfo Virchow, Facultad de Medicina, Universidad Austral de Chile, Valdivia.
TI `Second neoplasms in malignant hematologic disorders. Experience from 1978 to 1987:.
TT Segundas neoplasias en hemopatias malignas. Experiencia en el periodo 1978-1987.
SO Rev-Med-Chil. 1990 May. 118(5). P 522-9.
JT REVISTA MEDICA DE CHILE.
PT JOURNAL-ARTICLE (ART).
LG Spanish (SP).
AB Neoplasia may develop in patients with malignant hematologic disorders, during remission after radio and/or chemotherapy. A multifactorial origin related to therapy may be postulated. From 1978 to 1987, among 142 patients with malignant hematologic disorders (Hodgkin lymphoma 33, non-Hodgkin lymphoma 51, Multiple Myeloma 35 and Chronic Myeloid Leukemia 31) we observed 3 patients developing another neoplasia. An additional patient with acute non-lymphatic leukemia had been submitted to chemotherapy for gastric cancer. Four

other patients with double neoplasia, one of them a hematologic one, had not been submitted to chemotherapy. The lack of national *registries* for neoplastic diseases precludes an estimation of the odd ratios involved in our findings. Author-abstract.

MJ LEUKEMIA-MYELOID-CHRONIC: therapy (th). LYMPHOMA: therapy (th). MULTIPLE-MYELOMA: therapy (th). NEOPLASMS-MULTIPLE-PRIMARY: etiology (et).
MN ADOLESCENCE. ADULT. AGED. ANTINEOPLASTIC-AGENTS-COMBINED: adverse-effects (ae). CASE-REPORT. CHILD. ENGLISH-ABSTRACT. FEMALE. HUMAN. MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED.* RETROSPECTIVE-STUDIES.
RN 0 -- Antineoplastic-Agents-Combined.
YR 1990.
IS 0034-9887. SHD.
CP CHILE (Z1.107.757.235).
IM 9106.
ND ENTRY DATE: 910409.
CLASS UPDATE: 92.

97

AN 91156798. 91000.
AU Ron-E. Modan-B. Preston-D. Alfandary-E. Stovall-M. Boice-J-D Jr.
IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda, Maryland 20892.
TI *Radiation-induced* skin carcinomas of the head and neck.
SO Radiat-Res. 1991 Mar. 125(3). P 318-25.
JT *RADIATION* RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB *Radiation* exposures to the scalp during childhood for tinea capitis were associated with a fourfold increase in skin cancer, primarily basal cell carcinomas, and a threefold increase in benign skin tumors. Malignant melanoma, however, was not significantly elevated. Overall, 80 neoplasms were identified from an extensive search of the pathology logs of all major hospitals in Israel and computer linkage with the national cancer *registry.* *Radiation* dose to the scalp was computed for over 10,000 persons irradiated for ringworm (mean 7 Gy), and incidence rates were contrasted with those observed in 16,000 matched comparison subjects. The relative risk of radiogenic skin cancer did not differ significantly between men or women or by time since exposure; however, risk was greatest following exposures in early childhood. After adjusting for sex, ethnic origin, and attained age, the estimated excess relative risk was 0.7 per Gy and the average excess risk over the current follow-up was 0.31/10(4) PY-Gy. The risk per Gy of *radiation-induced* skin cancer was intermediate between the high risk found among whites and no risk found among blacks in a similar study conducted in New York City (Shore et al., Radiat. Res. 100, 192-204, 1984). This finding suggests the role that subsequent exposure to uv *radiation* likely plays in the expression of a potential *radiation-induced* skin

malignancy. Author-abstract.
 MJ HEAD-AND-NECK-NEOPLASMS: epidemiology (ep).
 NEOPLASMS-RADIATION-INDUCED: epidemiology (ep). RADIOTHERAPY:
 adverse-effects (ae). SCALP. SKIN-NEOPLASMS: epidemiology (ep).
 TINEA-CAPITIS: radiotherapy (rt).
 MN ADOLESCENCE. AGE-FACTORS. CARCINOMA-BASAL-CELL: epidemiology (ep),
 etiology (et). CHILD. CHILD-PRESCHOOL. FEMALE.
 HEAD-AND-NECK-NEOPLASMS: etiology (et). HUMAN. INFANT. ISRAEL:
 epidemiology (ep). MALE. MELANOMA: epidemiology (ep), etiology
 (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et).
 RETROSPECTIVE-STUDIES. RISK. SCALP: *radiation-effects* (re).
 SEX-FACTORS. SKIN-NEOPLASMS: etiology (et).
 SB Priority Journals (M). Cancer Journals (X).
 YR 1991.
 IS 0033-7587. QMP.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9106.
 ND ENTRY DATE: 910405.

98

AN 91115586. 91000.
 AU Samet-J-M. Stolwijk-J. Rose-S-L.
 IN New Mexico Tumor *Registry,* Cancer Center, University of New Mexico,
 Albuquerque, NM 87131.
 TI Summary: International workshop on residential Rn epidemiology.
 SO Health-Phys. 1991 Feb. 60(2). P 223-7.
 JT HEALTH PHYSICS.
 PT CONGRESS (CON).
 LG English (EN).
 MJ RADON: adverse-effects (ae).
 MN ENVIRONMENTAL-EXPOSURE. EPIDEMIOLOGIC-METHODS. HUMAN.
 LUNG-NEOPLASMS: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology
 (et). RADON: analysis (an). RESEARCH-DESIGN.
 RN 10043-92-2 -- Radon.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1991.
 IS 0017-9078. G2H.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9105.
 ND ENTRY DATE: 910301.

99

AN 91099221. 91000.
 AU Hoel-D-G. Dinse-G-E.
 IN Division of Biometry and Risk Assessment, National Institute of
 Environmental Health Science, Research Triangle Park, NC 27709.
 TI Using mortality data to estimate *radiation* effects on breast cancer
 incidence.
 SO Environ-Health-Perspect. 1990 Jul. 87. P 123-9.
 JT ENVIRONMENTAL HEALTH PERSPECTIVES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB In this paper we combine Japanese data on *radiation* exposure and cancer mortality with U.S. data on cancer incidence and lethality to estimate the effects of ionizing *radiation* on cancer incidence. The analysis is based on the mathematical relationship between the mortality rate and the incidence and lethality rates, as well as on statistical models that relate Japanese incidence rates to U.S. incidence rates and *radiation* risk factors. Our approach assumes that the risk of death from causes other than the cancer does not depend on whether or not the cancer is present, and among individuals with the cancer, the risk of death attributable to the cancer is the same in Japan and the U.S. and is not affected by *radiation* exposure. In particular, we focus on the incidence of breast cancer in Japanese women and how this incidence is affected by *radiation* risk factors. The analysis uses Japanese exposure and mortality data from the *Radiation* Effects Research Foundation study of atomic bomb survivors and U.S. incidence and lethality data from the Surveillance, Epidemiology, and End Results *Registry.* Even without Japanese incidence data, we obtain reasonable estimates of the incidence of breast cancer in unexposed Japanese women and identify the *radiation* risk factors that affect this incidence. Our analysis demonstrates that the age at exposure is an important risk factor, but that the incidence of breast cancer is not affected by the city of residence (Nagasaki versus Hiroshima) or the time since exposure. Author-abstract.

MJ BREAST-NEOPLASMS: mortality (mo). *NEOPLASMS-RADIATION-INDUCED:* mortality (mo).

MN AGE-FACTORS. BREAST-NEOPLASMS: epidemiology (ep), etiology (et). COHORT-STUDIES. COMPARATIVE-STUDY. FEMALE. HUMAN. JAPAN: epidemiology (ep). LIKELIHOOD-FUNCTIONS. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NUCLEAR-WARFARE. RISK-FACTORS. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S. UNITED-STATES: epidemiology (ep).

SB Priority Journals (M).

YR 1990.

IS 0091-6765. EI0.

CP UNITED-STATES (Z1.107.567.875).

IM 9104.

ND ENTRY DATE: 910221.

100

AN 91084391. 91000.

AU Ashby-M-A. McEwan-L.

IN Royal Adelaide Hospital, North Terrace, Australia.

TI Treatment of non-melanoma skin cancer: a review of recent trends with special reference to the Australian scene.

SO Clin-Oncol (R Coll Radiol). 1990 Sep. 2(5). P 284-94.

JT CLINICAL ONCOLOGY (ROYAL COLLEGE OF RADIOLOGISTS).

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB Non-melanoma skin cancer (NMSC) is rarely recorded in cancer *registries* and it is only relatively recently that the serious public health implications, especially in terms of morbidity and expense, have been appreciated. Increased recreational sun exposure (particularly among the young) and ozone layer depletion have generated concern in many countries. Histological confirmation of the diagnosis, either by excision biopsy or punch biopsy is essential if management of the condition is to be rational and the results assessed. Surgery or radiotherapy or other dermatological techniques will cure over 90% of all NMSC. Comparison of the results of various modalities is difficult and poorly documented. Local recurrence rates of 2.0% for surgery and 3.7% for superficial X-ray treatment (SXRT), with 96% and 90% 5-year failure-free-survival respectively are reported from the Peter MacCallum Cancer Institute. More comparative trials are required with good cosmetic and late normal tissue damage evaluation. Factors affecting modality choice trends in Australia are discussed, where the role of plastic surgery has considerably expanded. The indications for radiotherapy and its fractionation require clarification, as does the use of moulds and implants. The belief that solar keratoses transform to invasive cancer has been seriously brought into question by recent Australian epidemiological studies. There can, however, be little doubt of the fact that keratoses are markers of cumulative solar damage, which is a well recognised risk factor for development of NMSC. There is a move away from aggressive ablative treatment of keratoses. The management of keratoacanthoma (KA) by observation is the usual practice, although radiotherapy is occasionally used when the lesion is conspicuous and unsightly.(ABSTRACT TRUNCATED AT 250 WORDS).
Author-abstract. 60 Refs.

MJ SKIN-DISEASES: therapy (th). SKIN-NEOPLASMS: therapy (th).

MN AGED. BASAL-CELL-NEVUS-SYNDROME: therapy (th).

CARCINOMA-BASAL-CELL: etiology (et), therapy (th).
(th).CARCINOMA-SQUAMOUS-CELL: etiology (et), therapy (th). FEMALE.

HUMAN. KERATOACANTHOMA: etiology (et), therapy (th). KERATOSIS:
etiology (et), therapy (th). MALE. MIDDLE-AGE.

NEOPLASMS-RADIATION-INDUCED: therapy (th). SKIN-DISEASES: etiology
(et). SKIN-NEOPLASMS: etiology (et). SUNLIGHT: adverse-effects
(ae).

SB Priority Journals (M).

YR 1990.

IS 0936-6555. AYI.

CP ENGLAND (Z1.542.363.300).

IM 9104.

ND ENTRY DATE: 910207.

101

AN 91066648. 91000.

AU Alexander-F-E. Ricketts-T-J. McKinney-P-A. Cartwright-R-A.

IN Department of Pathology, University of Leeds, UK.

TI Community lifestyle characteristics and risk of acute lymphoblastic leukaemia in children `see comments:.
 CM Comment in: Lancet 1991 Feb 9;337(8737):361.
 SO Lancet. 1990 Dec 15. 336(8729). P 1461-5.
 JT LANCET.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB High rates of leukaemia in children and young people have been associated with features of community isolation and population growth. Incidence data collected by two specialist *registries* were used to compare incidence rates at ward level with relevant ward characteristics derived from routine census and Ordnance Survey data for England and Wales. An excess risk of childhood acute lymphoblastic leukaemia (ALL) was found for wards which are farthest from large urban centres. The excess was greatest for wards of higher socioeconomic status and for children aged 1-7 years (the childhood peak), for which a two-fold excess was seen. These findings in general support the hypothesis that childhood leukaemia has an infectious aetiology. Author-abstract.
 MJ LEUKEMIA-LYMPHOCYTIC-ACUTE: epidemiology (ep).
 LEUKEMIA-RADIATION-INDUCED: epidemiology (ep). LIFE-STYLE. RADON: adverse-effects (ae). RESIDENCE-CHARACTERISTICS. SOCIAL-ISOLATION. SOCIOECONOMIC-FACTORS.
 MN ADOLESCENCE. AGE-FACTORS. CHILD. CHILD-PRESCHOOL. COMPARATIVE-STUDY. ENGLAND: epidemiology (ep). FEMALE. HUMAN. INFANT. INFANT-NEWBORN. LEUKEMIA-LYMPHOCYTIC-ACUTE: etiology (et). *LEUKEMIA-RADIATION-INDUCED:* etiology (et). MALE. *REGISTRIES.* REGRESSION-ANALYSIS. RISK-FACTORS. SPACE-TIME-CLUSTERING. SUPPORT-NON-U-S-GOVT. WALES: epidemiology (ep).
 RN 10043-92-2 -- Radon.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1990.
 IS 0023-7507. L0S.
 CP ENGLAND (Z1.542.363.300).
 IM 9103.
 ND ENTRY DATE: 910115.
 LAST REVISION DATE: 920826.

102

AN 91062614. 91000.
 AU Quast-U. Dutreix-A. Broerse-J-J.
 IN Department of Radiotherapy, University Hospital, Essen, F.R.G.
 TI Late effects of total body irradiation in correlation with physical parameters.
 SO Radiother-Oncol. 1990. 18 Suppl 1. P 158-62.
 JT RADIOTHERAPY AND ONCOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Clear and complete documentation of the physical parameters of total

body irradiation (TBI) is one of the essential requirements for the evaluation and improvement of the clinical results of TBI. Concerning the dosimetric aspects of TBI, a number of recommendations have been formulated with emphasis on basic dosimetry, patient dosimetry and dose specification. The dosimeters should be calibrated regularly with reference to the absorbed dose in water. Depth dose measurements should be performed in water equivalent phantoms of specified dimensions. It has been strongly suggested to measure the absorbed dose at the surface of the patient at 8 different regions at the entry and exit of the beam under TBI conditions. The reference dose to the patient should be specified as the total dose to mid abdomen at the height of the umbilicus. As an independent parameter, the lung dose should be specified as the mean dose in the central region of the shielded part of both lungs. Recent, more complete, information on the physical and dosimetric aspects of TBI will be incorporated in the *registry* of the European Bone Marrow Transplant Group (EBMT). A cooperation has been established between the EBMT and the European Late Effects Project Group (EULEP) to study the development of late effects in man caused by ionising *radiation.* Author-abstract.

MJ WHOLE-BODY-IRRADIATION.

MN CALIBRATION. HUMAN. MODELS-STRUCTURAL. RADIOTHERAPY-DOSAGE. TIME-FACTORS. WHOLE-BODY-IRRADIATION: methods (mt).

SB Priority Journals (M).

YR 1990.

IS 0167-8140. RAE.

CP NETHERLANDS (Z1.542.651).

IM 9103.

ND ENTRY DATE: 910109.

103

AN 91062246. 91000.

AU Cullen-J-W.

IN Division of Oncology/Hematology, Children's Hospital, Denver, Colo.

TI Second malignant neoplasms in survivors of childhood cancer.

SO Pediatrician. 1991. 18(1). P 82-9.

JT PEDIATRICIAN.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB As the treatment of childhood cancer continues to improve, the number of survivors at risk for late effects rises. One such late effect is the risk of second malignant neoplasms. Large multicenter *registries* have been established to accumulate data on the incidence of second cancers. Relative risks and cumulative risks can now be calculated for retinoblastoma, Wilm's tumor and Hodgkin's disease. Early data are now available for leukemia, sarcomas and central nervous system tumors. Genetic cancer syndromes, *radiation* therapy and treatment with chemotherapeutic agents are known risk factors for second malignant neoplasms in survivors of childhood cancer. Author-abstract. 39 Refs.

MJ NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).
MN CHILD. DENMARK: epidemiology (ep). FOLLOW-UP-STUDIES.
GREAT-BRITAIN: epidemiology (ep). HUMAN. ITALY: epidemiology (ep).
MEDICAL-RECORDS. NEOPLASMS-MULTIPLE-PRIMARY: etiology (et), genetics
(ge).
SB Priority Journals (M).
YR 1991.
IS 0300-1245. PET.
CP SWITZERLAND (Z1.542.883).
IM 9103.
ND ENTRY DATE: 910107.

104

AN 91048616. 91000.
AU Molina-J-E. Edwards-J-E. Ward-H-B.
IN University of Minnesota, Department of Surgery, Minnesota Heart and
Lung Institute, Minneapolis.
TI Primary cardiac tumors: experience at the University of Minnesota.
SO Thorac-Cardiovasc-Surg. 1990 Aug. 38 Suppl 2. P 183-91.
JT THORACIC AND CARDIOVASCULAR SURGEON.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A review of all primary cardiac tumors seen at the University of
Minnesota or entered in the *Registry* of Cardiovascular Disease,
affiliated with the University of Minnesota, between 1959 and 1989.
Of a total of 124 primary cardiac tumors, 103 (83%) were benign and
21 (17%) were malignant. Atrial myxomas (51 cases) accounted for 42%
of all tumors and 50% of benign neoplasias. The remaining 51 benign
tumors were, in order of frequency: rhabdomyomas, 14 (13%),
papillomas, 12 (11%), fibromas, 9 (9%), hamartomas, (4%), teratomas
(2%), lipomas (2%), mesotheliomas (2%), fibroelastomas, hemangiomas,
glomangiomas, and a few others. The 21 malignant tumors, all
sarcomas, were, in order of frequency: rhabdomyosarcomas, 6 (29%),
angiosarcomas, 4 (19%), myxosarcomas, 3 (14%), fibrosarcomas, 2
(10%), and one each leiomyosarcoma, reticulum cell sarcoma, and
liposarcoma. There were 3 cases of spindle cell sarcoma (14%)
originating in the great vessels: 1 in the pulmonary artery and 2 in
the aorta. The prognosis of the resected benign tumors was good,
with no complications of recurrences for up to 15 years of follow-up.
Tumors that could not be excised included mostly rhabdomyomas, in
newborns, and cavernous hemangiomas involving most of the heart, with
poor prognosis. Malignant tumors of the heart had a very poor
prognosis, even when operated on promptly after diagnosis. The mean
survival time of these patients was 5 months after resection, even
when followed with chemotherapy and/or *radiation;* 26% of the tumors
had already metastasized at the time of operation. Extensive
resections in malignant tumors did not render satisfactory results.
Author-abstract.
MJ HEART-NEOPLASMS: epidemiology (ep). MYXOMA: epidemiology (ep).
PAPILLOMA: epidemiology (ep). RHABDOMYOMA: epidemiology (ep).

MN COMBINED-MODALITY-THERAPY. FEMALE. FOLLOW-UP-STUDIES.
HEART-NEOPLASMS: surgery (su). HUMAN. INCIDENCE. MALE.
MIDDLE-AGE. MINNESOTA: epidemiology (ep). MYXOMA: surgery (su).
PAPILLOMA: surgery (su). RHABDOMYOMA: surgery (su).
SB Priority Journals (M).
YR 1990.
IS 0172-6137. VR0.
CP GERMANY (Z1.542.315).
IM 9102.
ND ENTRY DATE: 901212.

105

AN 91047937. 91000.
AU Nelimark-R-A. Wise-N.
IN Central Plains Clinic, Sioux Falls, SD.
TI Statewide breast cancer study. South Dakota Tumor Registrars'
Association.
SO S-D-J-Med. 1990 Sep. 43(9). P 17-20.
JT SOUTH DAKOTA JOURNAL OF MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The South Dakota Tumor Registrars' Association reviewed breast cancer
cases in South Dakota for the years 1983 and 1988. There were 225
cases in the 1983 group and 266 cases in the 1988 group. Data from
this project revealed over 16% of patients in both groups had
positive family histories for breast cancer. More cases in 1988
(119) were Stage I as compared to 1983 (69) suggesting earlier
detection through increased awareness of the dangers of this disease
by improved educational programs from 1983 to 1988, and the increased
use of mammography in 1988 (86.8% of patients) as compared to 1983
(48% of patients). Modified radical mastectomy was the initial
therapy in the majority of cases in both groups. Segmental resection
followed by *radiation* therapy was the initial local therapy for 13
patients in 1988 as compared to six patients in 1983. Hormone
receptor analysis was obtained in over 70% of patients in both
groups. Adjuvant drug therapy was given to 25% of patients in both
groups. Only two patients in 1983 and one patient in 1988 were
entered on national research protocols. Author-abstract.
MJ BREAST-NEOPLASMS: epidemiology (ep). *REGISTRIES.*
MN ADULT. AGED. BREAST-NEOPLASMS: diagnosis (di), therapy (th).
FEMALE. HUMAN. MALE. MAMMOGRAPHY. MASTECTOMY-MODIFIED-RADICAL.
MIDDLE-AGE. SOUTH-DAKOTA: epidemiology (ep).
YR 1990.
IS 0038-3317. UJZ.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901220.

106

AN 91027124. 91000.

AU Donaldson-S-S. Draper-G-J. Flamant-F. Gerard-Marchant-R.
Mouriesse-H. Newton-W-A. Lemerle-J.
IN Division of *Radiation* Therapy, Stanford University School of
Medicine, California 94305.
TI Topography of childhood tumors: pediatric coding system.
SO Pediatr-Hematol-Oncol. 1986. 3(3). P 249-58.
JT PEDIATRIC HEMATOLOGY AND ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The importance of a uniform coding system for cancer research, tumor
registry, and exchange of information is recognized. However, tumors
arising in children differ from those in adults, resulting in lack of
precision when one coding system is used for both. Because the
topographic code of the International Classification of Disease for
Oncology for adult tumors does not lend itself well to pediatric
tumors, the International Society of Paediatric Oncology (SIOP)
developed a four-digit topographic coding system particularly adapted
to childhood tumors. The four digits correspond to anatomic site,
general and specific localization, and tissue of origin. An SIOP
pilot study demonstrated the usefulness of this code.
Author-abstract.
MJ MEDICAL-RECORDS. NEOPLASMS: classification (cl). *REGISTRIES.*
MN CHILD. FORMS-AND-RECORDS-CONTROL. HUMAN. MEDICAL-ONCOLOGY.
NEOPLASMS: epidemiology (ep). PILOT-PROJECTS. SOCIETIES-MEDICAL.
SB Priority Journals (M).
YR 1986.
IS 0888-0018. AVQ.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901205.

107

AN 91023278. 91000.
AU Cunningham-M-P. Duda-R-B. Recant-W. Chmiel-J-S. Sylvester-J-A.
Fremgen-A.
IN Cancer Incidence and End Results Committee, American Cancer Society,
Chicago, Illinois.
TI Survival discriminants for differentiated thyroid cancer.
SO Am-J-Surg. 1990 Oct. 160(4). P 344-7.
JT AMERICAN JOURNAL OF SURGERY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Since 1975, the American Cancer Society, Illinois Division, has
published end results of major cancer sites drawn from patient data
contributed voluntarily by hospital cancer *registries* throughout the
state. The current study was undertaken, in part, to apprehend
information regarding contested areas in the management of patients
having differentiated (papillary/follicular) thyroid cancer. A total
of 2,282 patients with either papillary or follicular carcinoma of
the thyroid from 76 different Illinois hospitals and providing 10

years of follow-up information (life-table analysis) were retrospectively analyzed for demographic, disease, and treatment-related predictors of survival. Multivariate analysis using the Cox proportional hazards method was made for stage, age, race, sex, morphology, history of *radiation* exposure, presence of positive lymph nodes, initial surgical treatment, postoperative iodine 131 therapy, and replacement/suppressive thyroid hormone treatment. Statistically significant (p less than or equal to 0.05) predictors of favorable survival after thyroid cancer were low stage (I and II), young age (less than 50 years), white race, female sex, and the administration, postoperatively, of either thyroid hormone or radioactive iodine. Factors that had no influence on survival were lymph node status, choice of initial surgical treatment, and a history of prior irradiation. We suggest that where a prospective clinical trial is impracticable, a retrospective analysis of a large and detailed database, such as that available from cooperating hospital-based tumor *registries,* may yet provide useful insights to solutions of cancer management problems. Author-abstract.

MJ ADENOCARCINOMA: mortality (mo). CARCINOMA-PAPILLARY: mortality (mo). THYROID-NEOPLASMS: mortality (mo).
MN ADENOCARCINOMA: etiology (et), therapy (th). ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. CARCINOMA-PAPILLARY: etiology (et), therapy (th). CHILD. DISCRIMINANT-ANALYSIS. FEMALE. HUMAN. MALE. MIDDLE-AGE. *NEOPLASMS-RADIATION-INDUCED:* mortality (mo). PROGNOSIS. PROPORTIONAL-HAZARDS-MODELS. RETROSPECTIVE-STUDIES. SURVIVAL-RATE. THYROID-NEOPLASMS: etiology (et), therapy (th).
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0002-9610. 3Z4.
CP UNITED-STATES (Z1.107.567.875).
IM 9101.
ND ENTRY DATE: 901101.

108

AN 91017753. 91000.
AU Halberg-F-E. Cornelissen-G. Halberg-F. Halberg-E. Halberg-J. Kessler-T. Mason-B-H. Glazer-E-R.
IN Department of *Radiation* Oncology, University of California-San Francisco School of Medicine.
TI About-yearly pattern of cancer deaths, 1942-1987, in patients of a San Francisco hospital.
SO Prog-Clin-Biol-Res. 1990. 341B. P 567-75.
JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ NEOPLASMS: mortality (mo). PERIODICITY.
MN HUMAN. *REGISTRIES.* RETROSPECTIVE-STUDIES. SAN-FRANCISCO: epidemiology (ep). SEASONS.
SB Priority Journals (M).

YR 1990.
IS 0361-7742. PZ5.
CP UNITED-STATES (Z1.107.567.875).
IM 9101.
ND ENTRY DATE: 901121.

109

AN 91008345. 91000.
AU Lloyd-R-D. Gren-D-C. Simon-S-L. Wrenn-M-E. Hawthorne-H-A.
Lotz-T-M. Stevens-W. Till-J-E.
IN Dept. of Environmental Sciences and Engineering, School of Public
Health, University of North Carolina, Chapel Hill 27599.
TI Individual external exposures from Nevada Test Site fallout for Utah
leukemia cases and controls.
SO Health-Phys. 1990 Nov. 59(5). P 723-37.
JT HEALTH PHYSICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB External gamma-ray exposures from fallout originating at the Nevada
Test Site (NTS) have been assigned to 6,507 individual subjects
(1,177 leukemia cases and 5,330 control subjects) who died as Utah
residents between 1952 and 1981. Leukemia cases were identified,
confirmed, and classified by cell type from the Utah Cancer *Registry,*
Utah State vital records, and medical records. Residential histories
were obtained from the Deceased Membership File (DMF) of the Church
of Jesus Christ of Latter-day Saints (LDS), supplemented by
information from the LDS Church Census Records that were taken in
1950, 1955, and 1960-62. Control subjects were selected randomly
within age strata from the DMF and were frequency-matched to the
cases by age at death and for sex. Individual *radiation* exposures
were assigned as a function of residence location and time interval
for each residence during the fallout period (1951-1958) using
geographic exposure data taken from the literature. Temporal
distribution of exposure for subjects who resided in more than one
locality or who were born or died during the fallout period was
determined from data of other investigators. Calculated gamma-ray
exposures for each place of residence were summed for each subject to
yield the exposure to fallout from the NTS. Author-abstract.
MJ ENVIRONMENTAL-EXPOSURE. LEUKEMIA: epidemiology (ep).
NUCLEAR-WARFARE. RADIOACTIVE-FALLOUT.
MN CASE-CONTROL-STUDIES. GAMMA-RAYS. HUMAN. NEVADA.
RADIATION-DOSAGE. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
UTAH: epidemiology (ep).
RN 0 -- Radioactive-Fallout.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 9101.
ND ENTRY DATE: 901121.

CLASS UPDATE: 91.

NO N01C023917. GRANT: CO. INSTITUTE: NCI.

110

AN 91007172. 91000.

AU Brenner-H. Stegmaier-C. Ziegler-H.

IN Saarlandisches Krebsregister, Statistisches Landesamt, Saarbrücken.

TI `Incidence of secondary tumors following cervical neoplasia in Saarland 1968-1987:.

TT Untersuchungen zum Auftreten von Zweittumoren nach Zervixneoplasien im Saarland 1968-1987.

SO Geburtshilfe-Frauenheilkd. 1990 Aug. 50(8). P 614-8.

JT GEBURTSHILFE UND FRAUENHEILKUNDE.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB In 4468 patients diagnosed with invasive cancer or carcinoma in situ of the uterine cervix in Saarland/W-Germany in 1968-1987, 149 secondary cancers were observed compared to 150.6 which would have been expected had the same risk prevailed as in the general population (SMR = 0.99, 95% confidence interval 0.84-1.17). There were, however, substantial differences between the relative risks for specific cancer sites. For example, the risk of breast cancer was clearly lower than in the general population (SMR = 0.62, 95% confidence interval 0.43-0.88), while the risk of cancer of the urinary bladder was significantly increased (SMR = 2.88, 95% confidence interval 1.53-4.93). The results are consistent with findings from other countries, with current knowledge of risk factor profiles of different malignancies and with hypotheses on possible side effects of radiotherapy. Author-abstract.

MJ CARCINOMA-IN-SITU: mortality (mo). CERVIX-NEOPLASMS: mortality (mo). NEOPLASMS-MULTIPLE-PRIMARY: mortality (mo). *REGISTRIES.*

MN CARCINOMA-IN-SITU: radiotherapy (rt). CAUSE-OF-DEATH. CERVIX-NEOPLASMS: radiotherapy (rt). CROSS-SECTIONAL-STUDIES. ENGLISH-ABSTRACT. FEMALE. GERMANY-WEST: epidemiology (ep). HUMAN. INCIDENCE. *NEOPLASMS-RADIATION-INDUCED:* mortality (mo).

SB Priority Journals (M).

YR 1990.

IS 0016-5751. FK5.

CP GERMANY (Z1.542.315).

IM 9101.

ND ENTRY DATE: 901119.

111

AN 91000732. 91000.

AU Ryberg-M. Lundell-M. Nilsson-B. Pettersson-F.

IN Department of Gynaecological Oncology, Karolinska Hospital, Stockholm, Sweden.

TI Malignant disease after *radiation* treatment of benign gynaecological disorders. A study of a cohort of metropathia patients.

SO Acta-Oncol. 1990. 29(5). P 563-7.

JT ACTA ONCOLOGICA.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB One hundred and seven cases of malignant tumours occurred among 788 women irradiated 1912 to 1977 for metropathia. One hundred and seventy-three women out of 1,219 referred for the same diagnosis and not irradiated developed a malignant tumour. The tumours were diagnosed between 1958 and 1982. The relative risk of malignant tumours among the irradiated women was 1.22 and among the non-irradiated 1.09 compared to cancer *registry* data. A statistically non-significant increase of the relative risk was found in the irradiated patients for tumours of the rectum (1.58), colon (1.46), and the nervous system (1.67). A decreased overall relative risk was seen for cancer of the breast (0.92) after irradiation, but women treated at the age of 50 or more had an increased risk (2.08). The relative cancer risk of the heavily irradiated sites was not increased during the first 20 years after irradiation, but a statistically significant increase of the risk was seen after 30 years. Author-abstract.
 MJ BRACHYTHERAPY: adverse-effects (ae). *NEOPLASMS-RADIATION-INDUCED.* UTERINE-DISEASES: radiotherapy (rt).
 MN COHORT-STUDIES. COMPARATIVE-STUDY. FEMALE. HUMAN. *RADIATION-DOSAGE.* RADIUM: therapeutic-use (tu). RETROSPECTIVE-STUDIES. RISK. SUPPORT-NON-U-S-GOVT.
 RN 7440-14-4 -- Radium.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1990.
 IS 0284-186X. AON.
 CP SWEDEN (Z1.542.808.843).
 IM 9101.
 ND ENTRY DATE: 901114.

112

AN 90382625. 90000.
 AU Steinstrasser-A. Schwarz-A. Kuhlmann-L. Seidel-L. Niemann-E. Bosslet-K.
 IN Hoechst AG, D-6230 Frankfurt, FRG.
 TI Preclinical and clinical testing of radiolabelled monoclonal antibodies for immunoscintigraphy.
 SO Dev-Biol-Stand. 1990. 71. P 137-45.
 JT DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB Immunoscintigraphy is a new method for in vivo diagnosis of diseases using monoclonal antibodies. Emphasis is placed on diagnosis of malignant tumors although the range of application includes a number of non-malignant diseases. To date, no European country has issued clear guidelines on the testing and registration of those monoclonal antibodies labelled with a radionuclide and used for diagnostic. This involves the risk of overregulation which would considerably

reduce the applicability of the method. This holds particularly true since the complications initially anticipated with the use of such compounds did not occur. The conduct of immunoscintigraphy has evolved during the last few years. For reasons of applicability, but also and mainly for reasons of *radiation* hygiene, I-131 and finally also In-111 were abandoned as labelling nuclides and replaced by Tc-99m. The protein amount involved was reduced. Some false estimations, which were due to particularities or artifacts of the iodinated antibodies used at the beginning, had to be corrected: the representation of the liver in a scintigram is part of the physiological distribution of antibodies; and fragments of antibodies normally do not present the anticipated kinetic advantages. The clinical results obtained with colon carcinomas show that not only recurrences and metastases, but also primary tumors can be detected with equally high sensitivity. In contrast, radioimmunotherapy does not yet seem as successful, at least against solid tumors.

Author-abstract. 6 Refs.

MJ ANTIBODIES-MONOCLONAL: diagnostic-use (du). COLONIC-NEOPLASMS: radionuclide-imaging (ri).

MN ANIMAL. COLONIC-NEOPLASMS: secondary (sc). DRUG-EVALUATION. HEALTH-POLICY. HUMAN. IN-VITRO. NETHERLANDS. *REGISTRIES.*

RN 0 -- Antibodies-Monoclonal.

SB Priority Journals (M).

YR 1990.

IS 0301-5149. E7V.

CP SWITZERLAND (Z1.542.883).

IM 9012.

ND ENTRY DATE: 901019.

CLASS UPDATE: 91.

113

AN 90368359. 90000.

AU Marshall-D-W.

IN EG&G Idaho, Idaho Falls, ID 83415.

TI 1990 National *Registry* of *Radiation* Protection Technologists Awards.

SO Health-Phys. 1990 Sep. 59(3). P 265-6.

JT HEALTH PHYSICS.

PT CURRENT-BIOG-OBIT (CBO). HISTORICAL-ARTICLE (HRT). JOURNAL-ARTICLE (ART).

LG English (EN).

MJ AWARDS-AND-PRIZES. *RADIATION-PROTECTION.*

MN HISTORY-OF-MEDICINE-20TH-CENT. PORTRAITS. *RADIATION-PROTECTION:* history (hi). TECHNOLOGY-RADIOLOGIC: history (hi). UNITED-STATES.

PN Mitchell-C-B. Skrabble-K-W.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 9012.

ND ENTRY DATE: 901011.

CLASS UPDATE: 90.

114

AN 90368212. 90000.

AU Rodvall-Y. Pershagen-G. Hrubec-Z. Ahlbom-A. Pedersen-N-L.
Boice-J-D.

IN Department of Epidemiology, Karolinska Institute, Stockholm, Sweden.

TI Prenatal X-ray exposure and childhood cancer in Swedish twins.

SO Int-J-Cancer. 1990 Sep 15. 46(3). P 362-5.

JT INTERNATIONAL JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The association between X-ray exposure in utero and childhood cancer was studied in a case-control study, nested in a national cohort of Swedish twin births. Records of the Swedish Twin Register for those born 1936-1967 (n = 83,316) were linked to the Swedish Cancer Register (1958-1983) and the Swedish Cause-of-Death Register (1952-1983). Ninety-five cases of childhood cancer before the age of 16 were identified. Two controls from the Twin Register were matched to each case by sex and year of birth. Maternal X-rays during pregnancy were documented for 41% of the cases and 36% of the controls. The crude relative risk of any childhood cancer associated with any prenatal X-ray was 1.2 (95% CI; 0.7-2.1). For the cases 64% of the X-rayed women had had abdominal X-rays, the numbers for the controls were 57%. Fifty-nine per cent of the X-rayed women had had abdominal X-rays, which were associated with a relative risk for all cancers of 1.4 (CI; 0.8-2.5), leukemias 1.7 (CI; 0.7-4.1) and tumors of the central nervous system 1.5 (CI; 0.5-4.2). There was no apparent confounding by mother's age, drug use, obstetric complications, previous miscarriages, social class or length of pregnancy. The observed relative risks of cancer following prenatal X-ray exposure are consistent with previous studies, suggesting that the developing fetus may be more sensitive to the carcinogenic effects of ionizing *radiation* than are children irradiated post-natally. Author-abstract.

MJ *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep).

PRENATAL-EXPOSURE-DELAYED-EFFECTS. RADIOGRAPHY: adverse-effects (ae). TWINS.

MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. COHORT-STUDIES. FEMALE.

FETAL-DEVELOPMENT: *radiation-effects* (re). HUMAN. MALE.

MATERNAL-AGE. PREGNANCY. *REGISTRIES.* RISK-FACTORS. SEX-FACTORS.

SUPPORT-U-S-GOVT-P-H-S. SWEDEN.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0020-7136. GQU.

CP UNITED-STATES (Z1.107.567.875).

IM 9012.

ND ENTRY DATE: 901009.

115

AN 90360098. 90000.
AU Gale-R-P. Horowitz-M-M.
IN Department of Medicine, UCLA School of Medicine 90024-1678.
TI Graft-versus-leukemia in bone marrow transplantation. The Advisory
Committee of the International Bone Marrow Transplant *Registry.*
SO Bone-Marrow-Transplant. 1990 Jul. 6 Suppl 1. P 94-7.
JT BONE MARROW TRANSPLANTATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB We studied 2254 persons receiving HLA-identical sibling bone marrow
transplants for acute myelogenous leukemia (AML) or acute
lymphoblastic leukemia (ALL) in first remission, or chronic
myelogenous leukemia (CML) in first chronic phase to determine
whether graft-versus-leukemia (GvL) reactions are important in
preventing leukemia recurrence after bone marrow transplantation.
Four groups were investigated; recipients of non-T-cell depleted
allografts without graft-versus-host disease (GvHD), recipients of
non-T-cell depleted allografts with GvHD, recipients of T-cell
depleted allografts, and recipients of genetically identical twin
transplants compared with recipients of non-T-cell depleted
allografts without GvHD. Decreased relapse was observed in recipients
of non-T-cell depleted allografts with acute (relative risk 0.68, P
= 0.03), chronic (relative risk, 0.43, P = 0.01), and both acute and
chronic GvHD (relative risk 0.33, P = 0.0001). These data support an
anti-leukemia effect of GvHD. AML patients receiving identical twin
transplants had an increased probability of relapse (relative risk
2.58, P = 0.008) compared to allograft recipients without GvHD
supporting an anti-leukemia effect of allografts independent of GvHD.
CML patients receiving T-cell depleted transplants without GvHD had
a higher probability of relapse (relative risk 6.91, P = 0.0001) than
recipients of non-T-cell depleted allografts without GvHD. These
data support an antileukemia effect independent of GvHD altered by
T-cell depletion. These results indicate that much of the
anti-leukemia effect of bone marrow transplants is related to immune
factors rather than high-dose chemotherapy and/or *radiation.*
Author-abstract.
MJ BONE-MARROW-TRANSPLANTATION: immunology (im). GRAFT-VS-HOST-DISEASE:
immunology (im). LEUKEMIA: surgery (su).
MN HUMAN. LEUKEMIA: immunology (im). LEUKEMIA-LYMPHOCYTIC-ACUTE:
immunology (im), surgery(su). LEUKEMIA-MYELOCYTIC-ACUTE: immunology
(im), surgery (su). LEUKEMIA-MYELOID-CHRONIC: immunology (im),
surgery (su). LYMPHOCYTE-DEPLETION. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-NON-P-H-S. SUPPORT-U-S-GOVT-P-H-S. T-LYMPHOCYTES:
immunology (im). TRANSPLANTATION-HOMOLOGOUS.
SB Priority Journals (M).
YR 1990.
IS 0268-3369. BON.
CP ENGLAND (Z1.542.363.300).
IM 9012.
ND ENTRY DATE: 901004.

NO CA40053. GRANT: CA. INSTITUTE: NCI. N01AI62530. GRANT: AI.
INSTITUTE: NIAID.

116

AN 90350456. 90000.

AU Pettersson-F. Ryberg-M. Malzer-B.

IN Department of Gynaecological Oncology, Radiumhemmet, Karolinska
Sjukhuset, Stockholm, Sweden.

TI Second primary cancer after treatment of invasive carcinoma of the
uterine cervix, compared with those arising after treatment for in
situ carcinomas. An effect of irradiation? A cancer *registry* study.

SO Acta-Obstet-Gynecol-Scand. 1990. 69(2). P 161-74.

JT ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A cancer *registry* cohort of 16,704 cases of invasive carcinoma of the
uterine cervix and 56,116 cases of in situ carcinomas of the uterine
cervix was followed up and second new primary cancers were recorded.
The invasive carcinomas contributed 127,118 woman-years at risk and
the in situ carcinomas contributed 453,362 woman-years at risk. The
main treatment for the invasive carcinomas had been radiotherapy and
for the in situ carcinomas, conization and other types of surgical
intervention. 767 new primaries occurred after treatment of invasive
carcinoma of the uterine cervix, compared with 644.5 expected. O/E
is 1.19. After the in situ carcinomas, 1,421 malignant tumors were
observed, vs. 1,188.0 expected (O/E 1.19). If, however, cases of
invasive carcinoma of the uterine cervix after in situ carcinomas are
excluded, the ratio observed/expected is 1.10. For some sites the
increased observed/expected ratios were found after both invasive and
in situ carcinomas, which speaks for some common carcinogenic effect
other than irradiation (for instance, in bronchus and trachea,
pharynx, nose, sinus and larynx, but also in rectum, urinary bladder,
other female genital organs, pancreas, lymphosarcoma, as well as
acute and non-lymphatic leukemia). A lower risk than expected--after
both in situ and invasive carcinoma of the uterine cervix--is
observed for breast cancer, cancer of the corpus uteri and for
multiple myeloma. However, analyses based on time since treatment
provide evidence of a carcinogenic effect of irradiation, especially
in intensively irradiated organs such as bladder, rectum, corpus
uteri and ovary, and also for acute and non-lymphatic leukemia.
Author-abstract.

MJ CARCINOMA-IN-SITU: therapy (th). CERVIX-NEOPLASMS: radiotherapy
(rt). *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep).
NEOPLASMS-MULTIPLE-PRIMARY: etiology (et).

NEOPLASMS-RADIATION-INDUCED: epidemiology (ep).

MN ADULT. AGED. CERVIX-NEOPLASMS: therapy (th). COHORT-STUDIES.
COMPARATIVE-STUDY. FEMALE. HUMAN. MIDDLE-AGE.
NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep). *REGISTRIES.*
RISK-FACTORS. SWEDEN: epidemiology (ep).

SB Priority Journals (M).

YR 1990.
IS 0001-6349. 1E8.
CP SWEDEN (Z1.542.808.843).
IM 9011.
ND ENTRY DATE: 900914.

117

AN 90341242. 90000.
AU Mulvihill-J-J.
IN National Cancer Institute, Clinical Epidemiology Branch, Bethesda,
Maryland 20892.
TI Sentinel and other mutational effects in offspring of cancer
survivors.
SO Prog-Clin-Biol-Res. 1990. 340C. P 179-86.
JT PROGRESS IN CLINICAL AND BIOLOGICAL RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB To date, no agent has been documented to cause germ cell mutation in
human beings, with the possible exception of *radiation* causing
abnormal meiotic chromosomes in testes. For studies in humans,
mutation epidemiologists prefer the cohort approach, starting with an
exposed population and looking for mutations that may be expressed in
offspring as variants in health, chromosomes, proteins, or nucleic
acids. Currently patients with cancer are the cohort exposed to the
largest doses of potential mutagens, i.e., radiotherapy and drugs.
In 12 large studies with over 825 patients and 1573 pregnancies, 46
(4%) of 1240 liveborns had a major birth defect, a rate comparable to
that in the general population. One of these was a classic sentinel
phenotype, i.e., a new sporadic case of a dominant mendelian
syndrome. In collaboration with 5 U.S. cancer *registries,* we
interviewed a retrospective cohort of 2383 patients diagnosed with
cancer under age 20 years, from 1945 through 1975. Records were
sought to verify major genetic disease, defined as a cytogenetic or
single gene disorder or 1 of 15 isolated birth defects. In 2308
offspring of survivors, 5 had a chromosomal syndrome, 11 had a single
gene disorder, and 62 had at least one major malformation. Among
4722 offspring of sibling controls, the respective numbers were 7,
12, and 127, nonsignificant differences. 7% of the parents of the
offspring with possibly new mutations received potentially mutagenic
therapy, compared with 12% of parents of normal children. Since
pregnancy in or by cancer survivors is still a rare event, future
efforts to document germ cell mutation may be best studied through
international cooperation coupled with diverse laboratory measures of
mutation. Author-abstract.
MJ MUTATION. NEOPLASMS: genetics (ge).
MN ABNORMALITIES-DRUG-INDUCED: genetics (ge).
ABNORMALITIES-RADIATION-INDUCED: genetics (ge). COHORT-STUDIES.
FEMALE. GERM-CELLS: drug-effects (de), *radiation-effects* (re).
HEREDITARY-DISEASES: genetics (ge). HUMAN. MALE. NEOPLASMS:
drug-therapy (dt), radiotherapy (rt). RETROSPECTIVE-STUDIES.

SB Priority Journals (M).
YR 1990.
IS 0361-7742. PZ5.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900913.

118

AN 90339857. 90000.
AU Harvey-J-C. Kagan-A-R. Ahn-C. Frankl-H. Davidson-W.
IN Department of Surgery, Kaiser Permanente Medical Center, Los Angeles, California.
TI Adenocarcinoma of the esophagus: a survival study.
SO J-Surg-Oncol. 1990 Sep. 45(1). P 29-32.
JT JOURNAL OF SURGICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A 35 year review of adenocarcinomas of the esophagus was undertaken. We found the disease to be one of increasing incidence afflicting white males disproportionately. Risk factors remain to be clarified. *Radiation* therapy in curative doses and complete resection were competitively effective in terms of long-term survival. No survival advantage was found with palliative surgery compared with other means of therapy. Optimal combinations of treatment remain to be discovered. Author-abstract.
MJ ADENOCARCINOMA: mortality (mo). ESOPHAGEAL-NEOPLASMS: mortality (mo).
MN ADENOCARCINOMA: therapy (th). ADULT. AGED. AGED-80-AND-OVER. CALIFORNIA: epidemiology (ep). ESOPHAGEAL-NEOPLASMS: therapy (th). FEMALE. HUMAN. MALE. MIDDLE-AGE. PALLIATIVE-TREATMENT. *REGISTRIES.* RISK-FACTORS. SEX-FACTORS. SURVIVAL-RATE.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0022-4790. K79.
CP UNITED-STATES (Z1.107.567.875).
IM 9011.
ND ENTRY DATE: 900913.

119

AN 90337753. 90000.
AU Weiss-J. Garbe-C. Bertz-J. Biltz-H. Burg-G. Hennes-B. Jung-E-G. Kreysel-H-W. Orfanos-C-E. Petzold-D. et al.
IN Universitäts-Hautkliniken Mannheim, Bonn.
TI `Risk factors for the development of malignant melanoma in West Germany. Results of a multicenter-case control study:.
TT Risikofaktoren für die Entwicklung maligner Melanome in der Bundesrepublik Deutschland. Ergebnisse einer multizentrischen Fall-Kontroll-Studie.
SO Hautarzt. 1990 Jun. 41(6). P 309-13.
JT HAUTARZT.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB In this multicenter case-control study (1,079 melanoma patients, 778 control persons), the significance of the well-known risk factors for the development of malignant melanoma (MM) was assessed for a German population. The multifactorial analysis of the data confirmed the total number of melanocytic nevi (MCN) as the most robust indicator for an increased melanoma risk. For persons with more than 50 MCN the relative risk was 4.8 times as high as for persons with fewer than 10 MCN. Hair color was found to be another valuable indicator. In persons with red hair the risk of MM was 4.7 that in individuals with black hair. Remarkably fair persons with skin type 1 (always sunburn, never tanning) had two times the risk of that in persons with skin type 4 (never sunburn, always tanning). The habit sun bathing for recreation showed no influence on the development of melanoma. A 2.7 x increased melanoma-risk was detected in persons with occupational sun exposure and out of doors work.

Author-abstract.

MJ MELANOMA: epidemiology (ep). *REGISTRIES.* SKIN-NEOPLASMS: epidemiology (ep).

MN CASE-CONTROL-STUDIES. ENGLISH-ABSTRACT. GERMANY-WEST. HUMAN. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NEVUS-PIGMENTED: epidemiology (ep). RISK-FACTORS. ULTRAVIOLET-RAYS: adverse-effects (ae).

SB Priority Journals (M).

YR 1990.

IS 0017-8470. G13.

CP GERMANY-WEST (Z1.542.315.570).

IM 9011.

ND ENTRY DATE: 900913.

120

AN 90331251. 90000.

AU Neugut-A-I. Robinson-E. Nieves-J. Murray-T. Tsai-W-Y.

IN Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, NY 10032.

TI Poor survival of treatment-related acute nonlymphocytic leukemia.

SO JAMA. 1990 Aug 22-29. 264(8). P 1006-8.

JT JAMA.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Population-based data on more than 1 million patients registered in the Surveillance, Epidemiology, and End-Results Program of the National Cancer Institute, 1973 to 1984, were analyzed to determine the survival of patients with de novo acute nonlymphocytic leukemia (ANLL) and following a first primary tumor treated (with chemotherapy and/or *radiation* therapy) or untreated. Cases that occurred within 12 months of the first malignant neoplasm were excluded. Survival was estimated using Cox proportional-hazards modeling, with age, sex, and specific type of ANLL as covariates. The 6271 patients with de

novo ANLL had an estimated 12-month survival of 30%, while the 107 patients with treatment-related ANLL *(radiation* therapy, 60; chemotherapy, 29; both, 18) had an estimated 12-month survival of 10%. This is not due to lingering effects of the first tumor since ANLL following solid tumors not treated with chemotherapy or *radiation* therapy (118 cases) has similar survival (estimated 12-month survival, 36%) as de novo ANLL. We conclude that ANLL that occurs after chemotherapy or *radiation* therapy is biologically more aggressive and/or resistant to therapy than spontaneous ANLL. This provides a rationale for current studies on treatment-induced cellular changes and on more aggressive therapy for these patients. Author-abstract.

MJ LEUKEMIA-NONLYMPHOCYTIC-ACUTE: mortality (mo).
 LEUKEMIA-RADIATION-INDUCED: mortality (mo).
 MN AGED. ANTINEOPLASTIC-AGENTS: adverse-effects (ae). FEMALE. HUMAN. LEUKEMIA-NONLYMPHOCYTIC-ACUTE: chemically-induced (ci), etiology (et). MALE. MIDDLE-AGE. PROPORTIONAL-HAZARDS-MODELS. RADIOTHERAPY: adverse-effects (ae). *REGISTRIES.* SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. SURVIVAL-ANALYSIS.
 RN 0 -- Antineoplastic-Agents.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1990.
 IS 0098-7484. KFR.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9011.
 ND ENTRY DATE: 900905.
 CLASS UPDATE: 91.
 NO RR00645. GRANT: RR. INSTITUTE: NCRR. CA01211. GRANT: CA. INSTITUTE: NCI.

121

AN 90321828. 90000.
 AU Rutqvist-L-E. Johansson-H.
 IN Oncologic Centre, Radiumhemmet, Karolinska Hospital, Stockholm, Sweden.
 TI Mortality by laterality of the primary tumour among 55,000 breast cancer patients from the Swedish Cancer *Registry*.
 SO Br-J-Cancer. 1990 Jun. 61(6). P 866-8.
 JT BRITISH JOURNAL OF CANCER.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB To examine the hypothesis that radiotherapy for breast cancer can cause myocardial infarction, cause-specific mortality by laterality of the primary tumour was analysed among 54,617 breast cancer patients reported to the Swedish Cancer *Registry* during 1970-1985. The rationale was that radiotherapy for a left-sided breast cancer invariably results in higher doses of *radiation* to the myocardium than a similar treatment given for a right-sided tumour whereas other possible risk factors for cardiovascular disease probably are

unrelated to the laterality of the tumour. The median follow-up was 9 years (range 1-17 years). Patients with left-sided tumours were found to have a higher mortality due to myocardial infarction than patients with right-sided tumours (P less than 0.01) but there was no difference in regard to total intercurrent mortality. Further analyses of individual radiotherapy studies are warranted to quantify the excess risk associated with *radiation* and to study the significance of the type of *radiation,* portal arrangements, total dose and fractionation. It seems reasonable to assume that adverse effects of *radiation* are dose-related and may thus be minimised or prevented by the use of appropriate treatment techniques.

Author-abstract.

MJ BREAST-NEOPLASMS: mortality (mo). MYOCARDIAL-INFARCTION: mortality (mo). *RADIATION-INJURIES:* mortality (mo). *REGISTRIES.*
MN BREAST-NEOPLASMS: pathology (pa), radiotherapy (rt). CAUSE-OF-DEATH. FEMALE. HUMAN. SWEDEN.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0007-0920. AV4.
CP ENGLAND (Z1.542.363.300).
IM 9011.
ND ENTRY DATE: 900830.

122

AN 90317914. 90000.
AU Kobayashi-Y. Arimoto-H. Ono-I. Watanabe-S.
IN Epidemiology Division, National Cancer Center Hospital, Tokyo.
TI Multiple primary cancers in patients with initial laryngeal cancer.
SO Jpn-J-Clin-Oncol. 1990 Jun. 20(2). P 128-33.
JT JAPANESE JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The risk of a person developing a second primary cancer was evaluated in 1,215 patients with laryngeal cancer at the National Cancer Center Hospital. Overall, 92 (8.2%) of the male patients and 5 (5.7%) of the female patients developed a second cancer, compared with 83.0 and 3.7, respectively, expected on the basis of general population rates, resulting observed: expected values (O/E) to be 1.1 and 1.3. The numbers of second cancers of the lung (O/E = 1.9), oropharynx (O/E = 8.8) and esophagus (O/E = 2.8) were significantly in excess of those expected, while the number of second stomach cancers (O/E = 0.5) was far below expectation. Synchronous second cancers were significantly higher than expected (O/E = 4.6). Smoking, especially heavy smoking, was related to second lung cancers, but alcohol drinking featured less. Histories of benign respiratory tract and digestive organ diseases were related to second oropharyngeal cancers. Alcohol drinking was related to second stomach cancers. *Radiation* therapy for the initial laryngeal cancer was related to second oropharyngeal cancers, while hazardous occupations related to noxious agents for respiratory systems featured more prevalently in cases of second lung

cancer. Further analytical studies should clarify the roles of smoking, drinking, occupation and various forms of therapy on the risk of developing a different second cancer following laryngeal cancer. Author-abstract.

MJ LARYNGEAL-NEOPLASMS: epidemiology (ep). LUNG-NEOPLASMS: epidemiology (ep). NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep). OROPHARYNGEAL-NEOPLASMS: epidemiology (ep). PHARYNGEAL-NEOPLASMS: epidemiology (ep). STOMACH-NEOPLASMS: epidemiology (ep).
MN ADULT. AGED. ALCOHOL-DRINKING. ESOPHAGEAL-NEOPLASMS: epidemiology (ep). FEMALE. FOLLOW-UP-STUDIES. HUMAN. JAPAN: epidemiology (ep). MALE. MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS. SMOKING. TIME-FACTORS.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0368-2811. KIN.
CP JAPAN (Z1.252.474.463).
IM 9010.
ND ENTRY DATE: 900817.
CLASS UPDATE: 90.

123

AN 90311409. 90000.
AU Henriksen-T. Dahlback-A. Larsen-S-H. Moan-J.
IN Institute of Physics, University of Oslo, Norway.
TI *Ultraviolet-radiation* and skin cancer. Effect of an ozone layer depletion.
SO Photochem-Photobiol. 1990 May. 51(5). P 579-82.
JT PHOTOCHEMISTRY AND PHOTOBIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The effect of changes in the ozone layer on the incidence of skin cancer was explored using data for Norway. Attempts were made to arrive at a relationship between the "environmental effective UV-dose" and the skin cancer incidence. Norway is well suited for this purpose because of the large variation in the annual UV-dose from north to south. Furthermore we have a well developed cancer *registry* and a homogeneous population with regard to skin type. Four different regions of the country, each with a broadness of 1 degree in latitude (approximately 111 km), were selected (located around 69.5, 63.5, 60 and 58.5 degrees N). The annual effective UV-doses for these regions were calculated, assuming normal ozone conditions throughout the year and the action spectrum proposed by CIE, which extends up to 400 nm. The incidence rate (in the period 1970-1980) of malignant melanoma and non-melanoma skin cancer (mainly basal cell carcinoma) increased with the annual environmental UV-doses. For both these types of cancer a quadratic dose-effect relationship seems to be valid to a first approximation. The present data indicate that the incidence of skin cancer would increase by approximately 2% for each percent ozone reduction. Author-abstract.
MJ *NEOPLASMS-RADIATION-INDUCED:* etiology (et). OZONE. SKIN-NEOPLASMS:

etiology (et). SUNLIGHT: adverse-effects (ae). ULTRAVIOLET-RAYS.
MN HUMAN. INCIDENCE. NORWAY. SKIN-NEOPLASMS: epidemiology (ep).
RN 10028-15-6 -- Ozone.
YR 1990.
IS 0031-8655. P69.
CP ENGLAND (Z1.542.363.300).
IM 9010.
ND ENTRY DATE: 900816.

124

AN 90294270. 90000.
AU Smith-R-A. Routh-A. Lackey-V-L. Hsu-H. Reagan-M-T.
Stubblefield-G-C. Furr-M-C. Houston-G-A. Gillespie-G-T Jr.
Graham-B-L.
IN Department of *Radiation* Oncology, Mississippi Baptist Medical Center,
Jackson.
TI Patients with localized pancreatic adenocarcinoma in central
Mississippi: a retrospective analysis of survival.
SO J-Miss-State-Med-Assoc. 1990 Jun. 31(6). P 193-6.
JT JOURNAL OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Factors influencing the survival of central Mississippi patients with
adenocarcinoma of the pancreas were analyzed by a retrospective
analysis of the two largest tumor *registries* in the state. The
authors report that this Mississippi data agree with very recent
reports describing significant benefit from chemoradiotherapy in
localized disease, and suggests a less fatalistic attitude of the
medical community towards localized pancreatic carcinoma is
appropriate. Author-abstract.
MJ ADENOCARCINOMA: mortality (mo). PANCREATIC-NEOPLASMS: mortality
(mo).
MN ADENOCARCINOMA: therapy (th). COMBINED-MODALITY-THERAPY. HUMAN.
MISSISSIPPI: epidemiology (ep). PANCREATIC-NEOPLASMS: therapy (th).
RETROSPECTIVE-STUDIES. SURVIVAL-RATE.
YR 1990.
IS 0026-6396. J6F.
CP UNITED-STATES (Z1.107.567.875).
IM 9010.
ND ENTRY DATE: 900731.

125

AN 90292829. 90000.
AU Spitz-M-R. Sider-J-G. Newell-G-R.
IN Department of Cancer Prevention and Control, University of Texas M.D.
Anderson Cancer Center, Houston 77030.
TI Salivary gland cancer and risk of subsequent skin cancer.
SO Head-Neck. 1990 May-Jun. 12(3). P 254-6.
JT HEAD AND NECK.
PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB There are epidemiologic similarities between salivary and skin neoplasms that could be attributed to exposure to ultraviolet *radiation.* To explore further the etiologic parallels between these two types of cancer, we studied the multiple primary association between salivary gland cancer with that of other cancers known to be induced by ultraviolet light exposure, using data from the SEER program for 1973-1984. Because nonmelanoma skin cancers other than cancers of the lip are not routinely reported to the SEER *registries,* we specifically evaluated the associations with melanoma and lip cancers. Expected numbers of subsequent primaries (melanoma and lip) for the 904 white men and 784 white women with an initial salivary gland cancer were computed from incidence rates using the Connecticut Tumor *Registry.* There were significantly increased risks for subsequent lip cancer among men (RR = 8.7) and for melanoma among women (RR = 7.1). Among men there was also a significant association between an initial lip cancer and risk of subsequent salivary gland cancer (RR = 12.7). These observations, together with reported increases in incidence of these tumors, suggest a common etiology, which could partly be explained because of exposure to ultraviolet *radiation.* Author-abstract.

MJ NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).

SALIVARY-GLAND-NEOPLASMS: epidemiology (ep). SKIN-NEOPLASMS: epidemiology (ep).

MN FEMALE. HUMAN. INCIDENCE. MALE. RETROSPECTIVE-STUDIES.

RISK-FACTORS. SUPPORT-NON-U-S-GOVT. UNITED-STATES.

SB Priority Journals (M).

YR 1990.

IS 1043-3074. G1P.

CP UNITED-STATES (Z1.107.567.875).

IM 9010.

ND ENTRY DATE: 900801.

126

AN 90273289. 90000.

AU Inoue-T. Masaoka-T. Shibata-H.

IN Department of *Radiation* Therapy, Center for Adult Diseases, Osaka, Japan.

TI Difference in onset between cytomegalovirus and idiopathic interstitial pneumonitis following allogeneic bone marrow transplantation for leukemia.

SO Strahlenther-Onkol. 1990 May. 166(5). P 322-5.

JT STRAHLENTHERAPIE UND ONKOLOGIE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Interstitial pneumonitis is one of the major causes of morbidity and mortality following bone marrow transplantation (BMT). Based on the Japanese BMT *Registry,* however, since 1983 the incidence of interstitial pneumonitis at one year has decreased to 32% by means of several efforts, such as fractionated low-dose rate total body

irradiation, selection of platelet donor from cytomegalovirus (CMV) seronegative donor, and prophylactic administration of anti-CMV high titer globulin. Cytomegalovirus (58%) was the most frequently causative organism within 100 days after bone marrow transplantation. On the other hand, idiopathic interstitial pneumonitis (44%) was the leading cause more than 100 days after bone marrow transplantation. There was a significant difference in onset after bone marrow transplantation against leukemia between cytomegalovirus (mean: 90 +/- 15 days) and idiopathic interstitial pneumonitis (mean: 186 +/- 32 days) (p less than 0.01). Author-abstract.

MJ BONE-MARROW-TRANSPLANTATION: adverse-effects (ae).

CYTOMEGALIC-INCLUSION-DISEASE: diagnosis (di). LEUKEMIA: complications (co). PULMONARY-FIBROSIS: diagnosis (di).

MN BONE-MARROW-TRANSPLANTATION: mortality (mo).

CYTOMEGALIC-INCLUSION-DISEASE: epidemiology (ep), etiology (et), mortality (mo). HUMAN. INCIDENCE. JAPAN: epidemiology (ep). LEUKEMIA: mortality (mo), therapy (th). PULMONARY-FIBROSIS: epidemiology (ep), etiology (et), mortality (mo). *REGISTRIES.* SUPPORT-NON-U-S-GOVT. TRANSPLANTATION-HOMOLOGOUS.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0179-7158. VCM.

CP GERMANY-WEST (Z1.542.315.570).

IM 9009.

ND ENTRY DATE: 900712.

127

AN 90261706. 90000.

AU Wilkins-J-R 3d. Hundley-V-D.

IN Department of Preventive Medicine, Ohio State University, Columbus 43210-1240.

TI Paternal occupational exposure to electromagnetic fields and neuroblastoma in offspring.

SO Am-J-Epidemiol. 1990 Jun. 131(6). P 995-1008.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Investigators in Texas have reported an association between paternal employment in jobs linked with exposure to electromagnetic fields and risk of neuroblastoma in offspring. In an attempt to replicate this finding, the authors conducted a case-control study in Ohio. A total of 101 incident cases of neuroblastoma were identified through the Columbus (Ohio) Children's Hospital Tumor *Registry.* All cases were born sometime during the period 1942-1967. From a statewide roster of birth certificates, four controls were selected for each case, with individual matching on the case's year of birth, race, and sex, and the mother's county of residence at the time of the (index) child's birth. Multiple definitions were employed to infer the potential for paternal occupational exposure to electromagnetic fields from the industry/occupation statements on the birth

certificates. Case-control comparisons revealed adjusted odds ratios ranging in magnitude from 0.5 to 1.9. For two of the exposure definitions employed--both of which are similar to one used by the Texas investigators--the corresponding odds ratios were modestly elevated (odds ratios = 1.6 and 1.9). Notably, the magnitude of these odds ratios is not inconsistent with the Texas findings, where the exposure definition referred to yielded an odds ratio of 2.1. Because the point estimates in this study are imprecise, and because the biologic plausibility of the association is uncertain, the results reported here must be interpreted cautiously. However, the apparent consistency between two independent studies suggests that future evaluation of the association is warranted. Author-abstract.

MJ ELECTROMAGNETIC-FIELDS. ELECTROMAGNETICS. ENVIRONMENTAL-EXPOSURE.
NEOPLASMS-RADIATION-INDUCED: etiology (et). NEUROBLASTOMA: etiology (et).
MN ADOLESCENCE. ADULT. CASE-CONTROL-STUDIES. CHILD. CHILD-PRESCHOOL.
HUMAN. INFANT. MALE. ODDS-RATIO. OHIO.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0002-9262. 3H3.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900628.
CLASS UPDATE: 90.

128

AN 90252793. 90000.
AU Yoshimoto-Y. Neel-J-V. Schull-W-J. Kato-H. Soda-M. Eto-R.
Mabuchi-K.
IN *Radiation* Effects Research Foundation, Hiroshima.
TI Malignant tumors during the first 2 decades of life in the offspring
of atomic bomb survivors.
SO Am-J-Hum-Genet. 1990 Jun. 46(6). P 1041-52.
JT AMERICAN JOURNAL OF HUMAN GENETICS.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The risk of cancer (incidence) prior to age 20 years has been
determined for children born to atomic bomb survivors and to a
suitable comparison group. Tumor ascertainment was through death
certificates and the tumor *registries* maintained in Hiroshima and
Nagasaki. The rationale for the study stemmed from the evidence that
a significant proportion of such childhood tumors as retinoblastoma
and Wilms tumor arise on the basis of a mutant gene inherited from
one parent plus a second somatic cell mutation involving the allele
of this gene. Gonadal *radiation* doses were calculated by the
recently established DS86 system, supplemented by an ad hoc system
for those children for one or both of whose parents a DS86 dose could
not be computed but for whom an ad hoc dose could be developed on the
basis of the available information. The total data set consisted of
(1) a cohort of 31,150 live-born children one or both of whose

parents received greater than 0.01 Sv of *radiation* at the time of the atomic bombings (average conjoint gonad exposure 0.43 Sv) and (2) two suitable comparison groups totaling 41,066 children. Altogether, 43 malignant tumors were ascertained in the children of exposed parents, and 49 malignant tumors were ascertained in the two control groups. A multiple linear regression analysis revealed no increase in malignancy in the children of exposed parents. However, examination of the data suggested that only 3.0-5.0% of the tumors of childhood that were observed in the comparison groups are associated with an inherited genetic predisposition that would be expected to exhibit an altered frequency if the parental mutation rate were increased. There is thus far no confirmation of the positive findings that Nomura found in a mouse system. Author-abstract.

MJ GENES: *radiation-effects* (re). *NEOPLASMS-RADIATION-INDUCED:* genetics (ge). NUCLEAR-WARFARE. RETINOBLASTOMA: genetics (ge). WILMS-TUMOR: genetics (ge).

MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL. EYE-NEOPLASMS: epidemiology (ep), etiology(et), genetics (ge). FEMALE. HUMAN. INFANT. INFANT-NEWBORN. JAPAN: epidemiology (ep). KIDNEY-NEOPLASMS: epidemiology (ep), etiology (et), genetics (ge). *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep), genetics (ge). MALE. MUTATION. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). OVARY: *radiation-effects* (re). REGRESSION-ANALYSIS. RETINOBLASTOMA: epidemiology (ep), etiology (et). SUPPORT-U-S-GOVT-NON-P-H-S. TESTIS: *radiation-effects* (re). WILMS-TUMOR: epidemiology (ep), etiology (et).

SB Priority Journals (M).

YR 1990.

IS 0002-9297. 3IM.

CP UNITED-STATES (Z1.107.567.875).

IM 9008.

ND ENTRY DATE: 900621.

CLASS UPDATE: 90.

129

AN 90246388. 90000.

TI `Veterinary Chief Inspection of Public Health. The practicing veterinarian and the use of roentgen apparatus:.

TT Veterinaire Hoofdininspectie van de Volksgezondheid. De praktizerende dierenarts en het gebruik van rontgentoestellen.

SO Tijdschr-Diergeneesk. 1990 Apr 15. 115(8). P 383-5.

JT TIJDSCHRIFT VOOR DIERGENEESKUNDE.

PT JOURNAL-ARTICLE (ART).

LG Dutch (DU).

MJ *RADIATION-INJURIES:* veterinary (ve). RADIOGRAPHY: instrumentation (is).

MN ANIMAL. LEGISLATION-VETERINARY. NETHERLANDS. *RADIATION-INJURIES:* prevention-and-control (pc). *REGISTRIES.*

SB Priority Journals (M).

YR 1990.

IS 0040-7453. VRY.
CP NETHERLANDS (Z1.542.651).
IM 9008.
ND ENTRY DATE: 900614.

130

AN 90227653. 90000.
AU Curtis-R-E. Boice-J-D Jr. Moloney-W-C. Ries-L-G. Flannery-J-T.
IN *Radiation* Epidemiology Branch, National Cancer Institute, National
Institutes of Health, Bethesda, Maryland 20892.
TI Leukemia following chemotherapy for breast cancer.
SO Cancer-Res. 1990 May 1. 50(9). P 2741-6.
JT CANCER RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Leukemia following chemotherapy for breast cancer was studied among
patients diagnosed during 1973-1985 within the population-based tumor
registries in the Surveillance, Epidemiology, and End Results
Program. Among 13,734 women given initial chemotherapy, 24 developed
acute nonlymphocytic leukemia (ANLL) compared to 2.1 expected based
on general population rates (observed/expected = 11.5; 95% confidence
interval = 7.4-17.1). Overall, 58 excess ANLL occurred per 100,000
women-years at risk for patients treated with chemotherapy. The
cumulative incidence was 0.7% at 10 years. Risk remained high over
all periods of observation up to 9 years after treatment. Among 7974
women treated only with surgery during 1973 and 1974, a period before
the widespread use of adjuvant chemotherapy for breast cancer, ANLL
was not significantly increased (observed = 7, expected = 5.1). A
case-control study was then conducted in Connecticut to evaluate in
more detail the risk associated with adjuvant chemotherapy in the
general population. Among 20 cases (17 incident leukemias and 3
deaths due to preleukemia) and 60 matched controls, alkylating agents
were linked to an 11.9-fold risk of ANLL and preleukemia (95%
confidence interval = 2.6-55). Chemotherapy regimens including
melphalan were related to a higher risk of leukemic conditions than
those including cyclophosphamide. These data suggest that women in
the general population treated with adjuvant chemotherapy for breast
cancer are at an increased risk of leukemia, that the risk remains
high among long-term survivors, and that risk differs by type of
alkylating agent administered. Author-abstract.
MJ ANTINEOPLASTIC-AGENTS: adverse-effects (ae). BREAST-NEOPLASMS:
drug-therapy (dt). LEUKEMIA: chemically-induced (ci).
MN AGE-FACTORS. AGED. AGED-80-AND-OVER. CASE-CONTROL-STUDIES.
FEMALE. FOLLOW-UP-STUDIES. HUMAN. LEUKEMIA-NONLYMPHOCYTIC-ACUTE:
chemically-induced (ci). MIDDLE-AGE. PRELEUKEMIA:
chemically-induced (ci). RISK-FACTORS.
RN 0 -- Antineoplastic-Agents.
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0008-5472. CNF.

CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900531.
CLASS UPDATE: 91.

131

AN 90220208. 90000.
AU Ligutic-I. Beer-Z. Modrusan-Mozetic-Z. Svel-I.
TI `Incidence of congenital anomalies in 2 communities in Croatia before and after the Chernobyl nuclear accident:.
TT Incidencija kongenitalnih anomalija u dvije općine SR Hrvatske prije i nakon Cernobilske nuklearne nesreće.
SO Lijec-Vjesn. 1989 Sep-Oct. 111(9-10). P 317-25.
JT LIJEČNICKI VJESNIK.
PT JOURNAL-ARTICLE (ART).
LG Serbo-Croatian (Roman) (SR).
AB The Institute for Medical Protection of Mothers and Children, being regional centre of European *registry* of congenital malformations (EUROCAT) since 1982, registers congenital anomalies in municipalities of Varazdin and Rijeka. Following the nuclear disaster of Chernobyl, there were numerous articles published mainly in daily newspapers, pointing to the increased number of malformations, particularly to Down's syndrome, due to additional irradiation imposed on population. Through this study we wanted to find out whether in Varazdin and Rijeka, following the Chernobyl's accident, there has been any increase of congenital anomalies and whether our regional and EUROCAT *registry* have been adequate to find out genetic effects of small doses of ionizing *radiation.* The total incidence of registered congenital anomalies in Varazdin and Rijeka in previous four-year period, amounted to 12.97%, while following Chernobyl, it amounted to 12.7%. Not even nine marker malformations, including Down's syndrome, show any statistically significant increased number of malformations, a year after this nuclear accident. In 18 EUROCAT *registries,* on almost half a million of newly born children and fetuses, conceived before and after May 1, 1986, the frequency of Down's syndrome and congenital malformations of central nervous system and eyes has been compared. There have been no important differences between two compared groups, and the rate of Down's syndrome was 1.26% before, and 0.91% after the accident. Anticipated stochastic genetic effects of measured and estimated additional doses of *radiation* imposed to our and Western European populations are too small to be found out neither by regional nor by EUROCAT *registries.* Author-abstract.
MJ *ABNORMALITIES-RADIATION-INDUCED:* epidemiology (ep). ACCIDENTS. NUCLEAR-REACTORS.
MN *ABNORMALITIES-RADIATION-INDUCED:* etiology (et). ENGLISH-ABSTRACT. FEMALE. HUMAN. INFANT-NEWBORN. MALE. UKRAINE. YUGOSLAVIA: epidemiology (ep).
YR 1989.
IS 0024-3477. L6C.

CP YUGOSLAVIA (Z1.542.248.980).
IM 9007.
ND ENTRY DATE: 900516.

132

AN 90193374. 90000.
AU Komp-D-M.
IN Department of Pediatrics, Yale University School of Medicine, New Haven, CT.
TI The treatment of sinus histiocytosis with massive lymphadenopathy (Rosai-Dorfman disease).
SO Semin-Diagn-Pathol. 1990 Feb. 7(1). P 83-6.
JT SEMINARS IN DIAGNOSTIC PATHOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB The available information on treatment of sinus histiocytosis with massive lymphadenopathy (SHML) was reviewed. Treatment is not necessary in most instances, but some patients may require surgery, *radiation* therapy, and/or chemotherapy because of severe disease manifestations. An ideal treatment has yet to be identified. Of the various chemotherapeutic regimens that have been tried so far, a combination of vinca alkaloid, alkylating agent, and corticosteroid appears to be the most effective. Author-abstract. 49 Refs.
MJ HISTIOCYTOSIS-SINUS: surgery (su).
MN ADRENAL-CORTEX-HORMONES: therapeutic-use (tu).
ANTINEOPLASTIC-AGENTS: therapeutic-use (tu). DRUG-COMBINATIONS.
HISTIOCYTOSIS-SINUS: drug-therapy (dt), radiotherapy (rt). HUMAN.
REGISTRIES. RETROSPECTIVE-STUDIES.
RN 0 -- Adrenal-Cortex-Hormones.
0 -- Antineoplastic-Agents.
0 -- Drug-Combinations.
SB Priority Journals (M).
YR 1990.
IS 0740-2570. SDP.
CP UNITED-STATES (Z1.107.567.875).
IM 9006.
ND ENTRY DATE: 900423.
CLASS UPDATE: 92.

133

AN 90189478. 90000.
AU Kobaashi-N. Hanawa-Y. Nagahara-N. Akatsuka-J. Matsui-I.
TI `A study of environmental factors before and during pregnancy in childhood malignancy:.
SO Gan-No-Rinsho. 1990 Feb. Spec No. P 370-6.
PT JOURNAL-ARTICLE (ART).
LG Japanese (JA).
AB To determine risk factors in childhood malignancy, we compared parental and fetal exposure rates of some environmental factors among major children's malignancies based on 2722 cases of the Japan

Children's Cancer *Registry* Database. The rates of parental exposure to irradiation, chemicals, and maternal dosage before and during pregnancies and of maternal smoking and drinking habit during pregnancies were slightly but statistically significantly high in some blastomas in which loss of heterozygosity of the genes has been reported. On the other hand, there were no significant correlations with these factors in leukemia and malignant lymphoma, which have been reported to be related to special chromosomal translocations. These possible risk factors should be examined by experimental and more detailed epidemiological studies. Author-abstract.

MJ ALCOHOL-DRINKING. *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep). LYMPHOMA: epidemiology (ep). NUCLEAR-WARFARE. PREGNANCY. PRENATAL-EXPOSURE-DELAYED-EFFECTS.
MN BRAIN-NEOPLASMS: epidemiology (ep). CHILD. ENGLISH-ABSTRACT. EYE-NEOPLASMS: epidemiology (ep). FEMALE. HUMAN. JAPAN: epidemiology (ep). NEUROBLASTOMA: epidemiology (ep). OCCUPATIONAL-DISEASES. RISK-FACTORS. SMOKING: adverse-effects (ae).
SB Priority Journals (M). Cancer Journals (X).
YR 1990.
IS 0021-4949. KIF.
CP JAPAN (Z1.252.474.463).
IM 9006.
ND ENTRY DATE: 900424.

134

AN 90153046. 90000.
AU Sprogel-P. Storm-H-H.
IN Danish Cancer Society, Danish Cancer *Registry,* Copenhagen.
TI Thyroid cancer: incidence, mortality and histological pattern in Denmark.
SO Int-J-Epidemiol. 1989 Dec. 18(4). P 990-2.
JT INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In Denmark, as in many other countries, the incidence of thyroid cancer is increasing, while mortality from this disease is decreasing. The proportionate distribution of cell types is similar to that seen elsewhere. The increase in incidence in other countries has been attributed to the increased use of *radiation* for benign conditions of the head and neck. This cannot explain the increase in incidence in Denmark, and other factors may contribute importantly to the changing picture of thyroid cancer. Author-abstract.
MJ CARCINOMA: epidemiology (ep). CARCINOMA-PAPILLARY: epidemiology (ep). THYROID-NEOPLASMS: epidemiology (ep).
MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. CARCINOMA: mortality (mo). CARCINOMA-PAPILLARY: mortality (mo). COHORT-STUDIES. DENMARK: epidemiology (ep). FEMALE. HUMAN. MALE. MIDDLE-AGE. THYROID-NEOPLASMS: mortality (mo).
SB Priority Journals (M).
YR 1989.

IS 0300-5771. GR6.
CP ENGLAND (Z1.542.363.300).
IM 9005.
ND ENTRY DATE: 900323.

135

AN 90122096. 90000.
AU Foresti-E. Sabatino-P. Riva-di-Sanseverino-L. Fusco-R. Tosi-C.
Tonani-R.
IN Dipartimento di Chimica G. Ciamician, Universita di Bologna, Italy.
TI Structure and molecular orbital study of ergoline derivatives.
1-(6-Methyl-8 beta-ergolinylmethyl)imidazolidine-2,4-dione (I) and
2-(10-methoxy-1,6-dimethyl-8 beta-ergolinyl)ethyl
3,5-dimethyl-1H-2-pyrrolicarboxylate toluene hemisolvate (II) and
comparison with nicergoline (III).
SO Acta-Crystallogr-B. 1988 Jun 1. 44 (Pt 3). P 307-15.
JT ACTA CRYSTALLOGRAPHICA. SECTION B, STRUCTURAL SCIENCE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB (I): C19H22N4O2 *(Registry* No. 95688-34-9), m.p. greater than 573 K,
Mr = 338.4, orthorhombic, P2(1)2(1)2(1), a = 8.392 (2), b = 13.004
(2), c = 15.676 (5) A, V = 1710.7 (7) A³, Z = 4, Dx = 1.31 Mg m⁻³, Mo
Ka *radiation,* lambda = 0.71069 A, mu = 0.08 mm⁻¹, F(000) = 720, T =
293 K, final R = 0.051 for 990 independent reflexions. (II):
C26H33N3O3.1/2C7H8 *(Registry* No. 54370-23-9), m.p. 427-429 K, Mr =
481.64, monoclinic, P2(1), a = 11.595 (4), b = 14.274 (2), c = 16.103
(4) A, beta = 100.19 (3) degrees, V = 2623 (1) A³, Z = 4, Dx = 1.22
Mg m⁻³, Mo Ka *radiation,* lambda = 0.71069 A, mu = 0.07 mm⁻¹, F(000)
= 1036, T = 293 K, final R = 0.064 for 2738 independent reflexions.
Two independent molecules constitute the asymmetric unit, together
with a toluene molecule. Parallel investigations of the title
compounds by single-crystal X-ray analysis and theoretical
calculations have converged in showing an extended configuration of
the side chain attached at the C8 atom of the ergoline nucleus.
Author-abstract.
MJ ERGOLINES. X-RAY-DIFFRACTION.
MN CHEMISTRY-PHYSICAL. MOLECULAR-CONFORMATION.
RN 0 -- Ergolines.
SB Priority Journals (M).
YR 1988.
IS 0108-7681. AI6.
CP DENMARK (Z1.542.808.224).
IM 9005.
ND ENTRY DATE: 900301.
CLASS UPDATE: 92.

136

AN 90103566. 90000.
AU Courtney-R-W.
TI Illinois Laser System Registration Law.

SO Arch-Environ-Health. 1969 Mar. 18(3). P 413-5.
 JT ARCHIVES OF ENVIRONMENTAL HEALTH.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ LASERS. *RADIATION-PROTECTION:* legislation-and-jurisprudence (lj).
 MN HUMAN. ILLINOIS. LASERS: adverse-effects (ae), standards (st).
 REGISTRIES.
 SB Abridged Index Medicus Journals (A). Priority Journals (M).
 YR 1969.
 IS 0003-9896. 6Y0.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9004.
 ND ENTRY DATE: 900129.

137

AN 90077492. 90000.
 AU Krishna-Murti-C-R.
 TI Environmental cancer in the Indian context--an overview.
 SO Indian-J-Cancer. 1989 Jun. 26(2). P 102-14.
 JT INDIAN JOURNAL OF CANCER.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB Problems related to environmental carcinogenesis have begun to surface with increased industrial activity and diffusion of hazardous chemicals. Cancer *Registries* maintained in some of our cities can help in retrospectively analysing incidence and related aetiology. Even a casual analysis of the existing data related aetiology. Even a casual analysis of the existing data belies the oversimplicity of the WHO model used in developing countries to assign lower priority to cancer prevention and control than to communicable diseases. Exposure data to environmental inducers of cancer, *radiations,* chemicals and other stresses is urgently needed. Prevention strategy should be more and more on a scientific base for an early detection and risk estimates of chemical exposures. Sustained environmental monitoring for inducers and cofactors are required. The Factory Act must make provision for appropriate health surveillance of workers over a long period. Author-abstract. 16 Refs.
 MJ CARCINOGENS-ENVIRONMENTAL. NEOPLASMS: chemically-induced (ci).
 MN ENVIRONMENTAL-MONITORING: standards (st). HUMAN. INDIA. NEOPLASMS: prevention-and-control(pc).
 RN 0 -- Carcinogens-Environmental.
 YR 1989.
 IS 0019-509X. GHY.
 CP INDIA (Z1.252.245.393).
 IM 9003.
 ND ENTRY DATE: 900112.
 CLASS UPDATE: 92.

138

AN 90041346. 90000.

AU Nomura-K.
 IN Committee of brain tumor *registry* in Japan, National Cancer Center.
 TI `Analysis of therapeutic factors related to survival rate for
 malignant glioma patients--report from Brain Tumor *Registry* in Japan,
 Vol. 6, 1987:.
 SO Gan-No-Rinsho. 1989 Sep. 35(11). P 1219-25.
 PT JOURNAL-ARTICLE (ART).
 LG Japanese (JA).
 AB From the data in vol. 6 of Brain Tumor *Registry* in Japan, there were
 mainly analyzed the survival rates of malignant astrocytoma and
 glioblastoma patients related to extent of surgical removal and
 postoperative *radiation.* Total removal of the supratentorial
 astrocytoma in brain revealed 75.9% in 5-year survival rate, whereas
 supratentorial malignant astrocytomas and glioblastomas, 43.7% and
 20.9% in 5-year survival rates, respectively. Survival rates related
 to combination of operation and *radiation* therapy for the
 glioblastoma and malignant astrocytoma patients were analyzed
 according to the mode of operation. For glioblastomas, patients
 treated with biopsy and post-operative *radiation* therapy indicated
 higher survival rate of 6.3% in 5-year survival than the patients
 with biopsy and no *radiation,* 3.0% of 5-year survival rates (P less
 than 0.01 by Chi-square test). On the other hand, patients treated
 with 95%-100% removal by operation with or without *radiation* therapy
 showed 67.2% (with), 32.1% (without) in 1 year survival; 37.2%, 23.1%
 in 2 year survival; 27.1%, 20.0% in 3 year survival; 22.5%, 20.2% in
 4 year survival and 20.4% and 19.4% in 5-year survival rates,
 respectively (P less than 0.05 by Chi-square test). Tentative TNM
 classification proposed by Japan to UICC was also discussed briefly.
 Author-abstract.
 MJ BRAIN-NEOPLASMS: mortality (mo). GLIOMA: mortality (mo).
 REGISTRIES.
 MN ADOLESCENCE. ADULT. AGE-FACTORS. AGED. ASTROCYTOMA: mortality
 (mo), radiotherapy(rt), surgery (su). BIOPSY. BRAIN: pathology
 (pa). BRAIN-NEOPLASMS: epidemiology (ep), radiotherapy (rt), surgery
 (su). CHILD. CHILD-PRESCHOOL. COMBINED-MODALITY-THERAPY.
 ENGLISH-ABSTRACT. GLIOMA: epidemiology (ep), radiotherapy (rt),
 surgery (su). HUMAN. INFANT. JAPAN: epidemiology (ep). METHODS.
 MIDDLE-AGE. PROGNOSIS. SUPPORT-NON-U-S-GOVT. SURVIVAL-RATE.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1989.
 IS 0021-4949. KIF.
 CP JAPAN (Z1.252.474.463).
 IM 9002.
 ND ENTRY DATE: 891201.
 CLASS UPDATE: 90.

139

AN 90007008. 90000.
 AU De-Fusco-P-A. Gaffey-T-A. Malkasian-G-D Jr. Long-H-J. Cha-S-S.
 IN Department of Oncology, Mayo Clinic, Rochester, Minnesota 55905.

TI Endometrial stromal sarcoma: review of Mayo Clinic experience,
 1945-1980.
 SO Gynecol-Oncol. 1989 Oct. 35(1). P 8-14.
 JT GYNECOLOGIC ONCOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Uterine sarcomas are uncommon malignancies. We retrospectively
 examined 24 cases of "high grade" endometrial stromal sarcomas (ESS).
 The histologic diagnosis was made if there was a high grade sarcoma
 with a high mitotic index and nuclear anaplasia. Heterologous
 elements could be present, if focal only. Leiomyosarcomas, mixed
 mesodermal sarcomas, and carcinosarcomas were excluded. Mitotic
 index was expressed as the number of mitoses per 10 high-power fields
 in active areas. Tumor grade was based on nuclear anaplasia. ESS
 were 5.7% of all uterine sarcomas. Median age was 58.2 years; median
 duration of symptoms was 67.5 days. Abnormal bleeding was the
 presenting complaint in 91.7%. Uterine enlargement was seen in 33%;
 protrusion through the cervical os was seen in 9 cases. Total
 abdominal hysterectomy and bilateral salpingo-oophorectomy was
 performed in 95.8%. Twenty patients had myometrial involvement; 5
 patients had serosal spread and extrauterine disease; residual
 disease was seen in 3 patients. Adjuvant *radiation* was not
 beneficial. Ten patients had recurrences: 60% in the pelvis, 50%
 each with subcomponent of abdominal or distant disease. Overall
 survival was 3.4 years and was significantly associated with extent
 of disease, size of the primary tumor, and grade. Author-abstract.
 MJ SARCOMA: pathology (pa). UTERINE-NEOPLASMS: pathology (pa).
 MN ADULT. AGED. AGED-80-AND-OVER. ANTINEOPLASTIC-AGENTS-COMBINED:
 therapeutic-use (tu). COMBINED-MODALITY-THERAPY. FEMALE. HUMAN.
 MIDDLE-AGE. MINNESOTA. NEOPLASM-RECURRENCE-LOCAL. PARITY.
 REGISTRIES. RETROSPECTIVE-STUDIES. RISK-FACTORS. SARCOMA: etiology
 (et), mortality (mo), surgery (su). UTERINE-NEOPLASMS: etiology
 (et), mortality (mo), surgery (su).
 RN 0 -- Antineoplastic-Agents-Combined.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1989.
 IS 0090-8258. FXC.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9001.
 ND ENTRY DATE: 891117.
 CLASS UPDATE: 92.

140

AN 89379884. 89000.
 AU Cooper-J-S. Pajak-T-F. Rubin-P. Tupchong-L. Brady-L-W.
 Leibel-S-A. Laramore-G-E. Marcial-V-A. Davis-L-W. Cox-J-D. et
 al.
 IN NYU Medical Center, NY 10016.
 TI Second malignancies in patients who have head and neck cancer:
 incidence, effect on survival and implications based on the RTOG

experience.

SO Int-J-Radiat-Oncol-Biol-Phys. 1989 Sep. 17(3). P 449-56.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART). MULTICENTER-STUDY (MUL). REVIEW (REV). REVIEW-MULTICASE (RMC).

LG English (EN).

AB The development of second malignant tumors (SMTs), in patients who have had their first tumor treated successfully, represents a serious limitation of current therapeutic strategies for head and neck cancers. To improve our understanding of the current magnitude of the problem and the various factors that might influence its importance, we reviewed the *Radiation* Therapy Oncology Group's (RTOG) prospectively collected *registry* of all head and neck patients seen in participating member institutions between February 1977 and April 1980. A total of 928 patients were identified who had squamous cell carcinomas of the head and neck region, no prior or coincident history of another malignant tumor, and whose planned treatment consisted of *radiation* therapy only. A total of 110 second, independent, malignant tumors occurred in these patients. Overall, the estimated risk of developing a second tumor within 3 years of radiotherapy was 10%, within 5 years 15%, and within 8 years 23%. Minor differences in frequency were observed for different primary sites. These SMTs unquestionably influenced subsequent survival adversely. Analysis of the database also revealed that the extent of the primary tumor influenced the risk of a second; most occurred in patients who presented with the smallest primary tumors because of their better survival. Our data indicate that preventive medicine should have its greatest impact in those patients who are treated for an early stage primary tumor. Author-abstract. 25 Refs.

MJ CARCINOMA-SQUAMOUS-CELL. HEAD-AND-NECK-NEOPLASMS.

NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).

MN CARCINOMA-BRONCHOGENIC: epidemiology (ep). ESOPHAGEAL-NEOPLASMS: epidemiology (ep). HUMAN. LUNG-NEOPLASMS: epidemiology (ep). MULTICENTER-STUDIES. PROGNOSIS. RETROSPECTIVE-STUDIES. RISK. UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0360-3016. G97.

CP UNITED-STATES (Z1.107.567.875).

IM 8912.

ND ENTRY DATE: 891013.

CLASS UPDATE: 90.

141

AN 89354302. 89000.

AU Moan-J. Dahlback-A. Henriksen-T. Magnus-K.

IN Institute for Cancer Research, Montebello, Oslo, Norway.

TI Biological amplification factor for sunlight-induced nonmelanoma skin cancer at high latitudes.

SO Cancer-Res. 1989 Sep 15. 49(18). P 5207-12.

JT CANCER RESEARCH.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Data for the incidence of basal cell carcinomas (BCCs) and squamous cell carcinomas (SCCs) of the skin, registered for six regions of Norway during 10 years (1976-1985), were used to evaluate the biological amplification factor Ab for induction of these cancers by sunlight. Ab is the ratio of the increment in skin cancer production to the increment in causative sunlight exposure. Two different approximations were used for the action spectrum for carcinogenesis: an erythema action spectrum; and an action spectrum for mutagenesis of cells in the basal layer of the skin. These two fundamentally different approaches yielded Ab values that were similar to within about 10%: 2.1-2.3 for BCCs; and 1.6-1.8 for SCCs. Using a *radiation* amplification factor for ozone depletion of 0.8-1.1, we find that the total amplification factor for BCCs is within the range 1.6-2.1 and that that for SCCs is within the range 1.3-1.7 at northern latitudes of 60-70 degrees. Thus, an ozone depletion of 1% will result in an increase in the incidence of BCCs by 1.6-2.1% and of SCCs by 1.3-1.7%. There were no significant differences between the values for men and women. Neither was there any significant difference between Ab values found for skin commonly exposed to sunlight (face) and for skin sites normally covered by clothes and therefore receiving much lower exposures, in spite of the fact that the tumor density per unit skin area was a factor of 20 or more larger at the former sites. This observation, as well as the curves relating cancer incidence with annual exposure to carcinogenic sunlight, supports a power law relationship between cancer incidence and annual sun exposure. Sunlight appears to be the main cause of BCCs and SCCs even at the high latitudes of Northern Norway. All over, BCCs were found to be about 6 times more frequent than SCCs. The ratio of the incidence of BCCs to that of SCCs seemed to be independent of the latitude. Finally, BCCs were found to be equally frequent among men and women, while SCCs were found to be about twice as frequent among men as among women. Author-abstract.

MJ CARCINOMA-BASAL-CELL: etiology (et). CARCINOMA-SQUAMOUS-CELL: etiology (et). SKIN-NEOPLASMS: etiology (et). SUNLIGHT: adverse-effects (ae).

MN CARCINOMA-BASAL-CELL: epidemiology (ep). CARCINOMA-SQUAMOUS-CELL: epidemiology (ep). DEMOGRAPHY. FEMALE. GEOGRAPHY. HUMAN. MALE. *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NORWAY. *REGISTRIES.* SKIN-NEOPLASMS: epidemiology (ep). SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0008-5472. CNF.

CP UNITED-STATES (Z1.107.567.875).

IM 8912.

ND ENTRY DATE: 891003.

AN 89353101. 89000.
 AU Bowlit-C. Tiplady-P.
 IN Department of *Radiation* Biology, St Bartholomew's Hospital Medical College, London.
 TI Radioiodine in human thyroid glands and incidence of thyroid cancer in Cumbria.
 SO BMJ. 1989 Jul 29. 299(6694). P 301-2.
 JT BMJ.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ IODINE-RADIOISOTOPES: analysis (an). THYROID-GLAND: analysis (an). THYROID-NEOPLASMS: epidemiology (ep).
 MN ADULT. AGED. ENGLAND. FEMALE. HUMAN. MALE. MIDDLE-AGE. NUCLEAR-REACTORS. RADIOACTIVE-POLLUTANTS: adverse-effects (ae). *REGISTRIES.* RESIDENCE-CHARACTERISTICS.
 RN 0 -- Iodine-Radioisotopes.
 0 -- Radioactive-Pollutants.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1989.
 IS 0959-8138. BMJ.
 CP ENGLAND (Z1.542.363.300).
 IM 8912.
 ND ENTRY DATE: 891011.
 CLASS UPDATE: 92.

143

AN 89353097. 89000.
 AU Ewings-P-D. Bowie-C. Phillips-M-J. Johnson-S-A.
 IN Department of Public Health, Somerset Health Authority, Taunton.
 TI Incidence of leukaemia in young people in the vicinity of Hinkley Point nuclear power station, 1959-86 `see comments:'.
 CM Comment in: BMJ 1989 Aug 26;299(6698):565-6.
 SO BMJ. 1989 Jul 29. 299(6694). P 289-93.
 JT BMJ.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The incidence of leukaemia and non-Hodgkin's lymphoma in young people (aged under 25) living in a predefined area around the nuclear power station at Hinkley Point, Somerset, was examined for the period 1959-86 by using cancer *registry* data. During the period since Hinkley Point began operations--that is, 1964-86--there were 19 cases in the area compared with 10.4 expected from national rates, giving a standardised registration ratio of 1.82 (95% confidence interval 1.10 to 2.85). The incidence in the rest of Somerset was also high, however (standardised registration ratio 1.18; 95% confidence interval 0.98 to 1.41), and the high rate around Hinkley Point may simply have been reflecting the high local incidence (ratio of the two standardised registration ratios 1.54; 95% confidence interval 0.90 to 2.52). Analysis of predetermined five year periods showed

that the excess cases in the Hinkley Point area were concentrated in the 10 years 1964-73 after commissioning of the station, at a time when rates in the rest of Somerset were close to the national average. In particular the nine cases occurring in the five years 1969-73 were about four times the number expected from national rates (standardised registration ratio 3.96; 95% confidence interval 1.81 to 7.52). Rates in the Hinkley Point area after 1973 were fairly low, especially as compared with the rest of Somerset. In the five years 1959-63 (that is, before Hinkley Point was commissioned) rates throughout Somerset (including the Hinkley Point area) were higher than the national rate. These findings should be interpreted with caution, and further studies are required to test the plausibility of theories relating to *radiation* and viruses. Author-abstract.

MJ LEUKEMIA: epidemiology (ep). NUCLEAR-REACTORS.
MN ADOLESCENCE. ADULT. CHILD. CHILD-PRESCHOOL.
DATA-INTERPRETATION-STATISTICAL. DEMOGRAPHY. ENGLAND. HUMAN.
LYMPHOMA-NON-HODGKINS: epidemiology (ep). PROBABILITY. *REGISTRIES.*
TIME-FACTORS.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0959-8138. BMJ.
CP ENGLAND (Z1.542.363.300).
IM 8912.
ND ENTRY DATE: 891011.
LAST REVISION DATE: 900307.
CLASS UPDATE: 91.

144

AN 89343535. 89000.
AU Tsyb-A-F. Dedenkov-A-N. Ivanov-V-K. Stepanenko-V-F.
Pozhidaev-V-V.
TI `The development of an all-Union *registry* of persons exposed to
radiation resulting from the accident at the Chernobyl atomic power
station:.
TT Razrabotka vsesoiuznogo registra lits, podvergnshikhsia radiatsionnomu
vozdeistviu v rezul'tate avarii na Chernobyl'skoi AES.
SO Med-Radiol (Mosk). 1989 Jul. 34(7). P 3-6.
PT JOURNAL-ARTICLE (ART).
LG Russian (RS).
MJ ACCIDENTS. NUCLEAR-REACTORS. POWER-PLANTS. *RADIATION-INJURIES:*\br/>epidemiology (ep). *REGISTRIES.*
MN FOLLOW-UP-STUDIES. HUMAN. INFORMATION-SYSTEMS:
organization-and-administration (og). *RADIATION-DOSAGE.*
RADIATION-INJURIES: etiology (et). UKRAINE.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0025-8334. MBI.
CP USSR (Z1.252.878, Z1.542.248.950, Z1.950).
IM 8911.

ND ENTRY DATE: 890915.

145

AN 89328503. 89000.

AU Farwell-J-R. Flannery-J-T.

IN Department of Neurological Surgery, Children's Hospital and Medical Center, University of Washington School of Medicine, Seattle.

TI Pinealomas and germinomas in children.

SO J-Neurooncol. 1989 May. 7(1). P 13-9.

JT JOURNAL OF NEURO-ONCOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A series of 34 pinealomas and intracranial germinomas in childhood (age less than 20), from two tumor *registries,* is analyzed. Male to female ratio was 2:1. Median age was 12 years. Visual complaints and endocrine disturbances were the most common presenting symptoms. Papilledema, visual field deficits, and oculomotor abnormalities were the principal findings at diagnosis. Cumulative probability of survival (CPS) of the entire series at one year was 0.65, at two years 0.54, and at five years 0.54. Best survival was with treatment by operation and *radiation:* CPS at one year was 0.82, at two years 0.82, and at five years still 0.82. Survival was similar with pineal region tumors and with suprasellar tumors. Most long-term survivors, particularly with suprasellar germinomas, had permanent hormonal deficits requiring replacement therapy. Author-abstract.

MJ BRAIN-NEOPLASMS: diagnosis (di). PINEALOMA: diagnosis (di).

MN ADOLESCENCE. ADULT. BRAIN-NEOPLASMS: mortality (mo), physiopathology (pp). CHILD. CHILD-PRESCHOOL. FEMALE. HUMAN. INFANT. MALE. PINEALOMA: mortality (mo), physiopathology (pp).

SB Priority Journals (M).

YR 1989.

IS 0167-594X. JCP.

CP NETHERLANDS (Z1.542.651).

IM 8911.

ND ENTRY DATE: 890829.

LAST REVISION DATE: 900220.

146

AN 89307982. 89000.

AU Kathren-R-L. McInroy-J-F. Moore-R-H. Dietert-S-E.

IN Hanford Environmental Health Foundation, United States Uranium *Registry,* Richland, WA 99352.

TI Uranium in the tissues of an occupationally exposed individual.

SO Health-Phys. 1989 Jul. 57(1). P 17-21.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Uranium concentrations were radiochemically determined in samples of lung, kidney, liver and bone collected at autopsy from an occupationally exposed individual. Levels of U in these tissues were

clearly in excess of those expected from environmental exposure. Deposition followed the pattern: skeleton greater than liver greater than kidney, with ratios of 63:2.8:1. The data suggest there is an important long-term storage depot in the skeleton, but the fraction transferred to this compartment, as proposed by ICRP 30, may be too small. In vivo chest counts obtained over about a 10-y period prior to death indicated about a factor of 2 greater in total U content and 235U enrichment than deposition estimates made at autopsy for the lungs and associated lymph nodes. Author-abstract.

MJ CHEMICAL-INDUSTRY. URANIUM: analysis (an).

MN BONE-AND-BONES: analysis (an). CASE-REPORT. ENVIRONMENTAL-EXPOSURE. HEALTH-PHYSICS. HUMAN. KIDNEY: analysis (an). LIVER: analysis (an). LUNG: analysis (an). MALE. MIDDLE-AGE. *RADIATION-DOSAGE.* SUPPORT-U-S-GOVT-NON-P-H-S. TISSUE-DISTRIBUTION. URANIUM: urine (ur).

RN 7440-61-1 -- Uranium.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890817.

147

AN 89304959. 89000.

AU Koulos-J-P. Hoffman-J-S.

TI Dysgerminoma: a study of 13 cases from the Connecticut Tumor *Registry.*

SO Conn-Med. 1989 Apr. 53(4). P 207-9.

JT CONNECTICUT MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Thirteen cases of patients with dysgerminoma of the ovary, accrued from the Connecticut Tumor *Registry* from 1974-84, were reviewed. Seven of the 13 patients were stage I at the time of initial surgery. Two of these patients had a diagnosis of dysgerminoma arising within a gonadoblastoma. Five of the seven patients were treated with some form of adnexal surgery; one patient received adjuvant combination chemotherapy consisting of vincristine, dactinomycin, and cyclophosphamide (VAC) and another received *radiation* therapy. Two of the seven patients were treated with total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH/BSO) plus *radiation* therapy. One patient, whose tumor recurred after initial therapy with unilateral oophorectomy, was successfully treated with *radiation* therapy. Six patients had advanced disease at the time of initial surgery. One patient with stage II disease and three patients with stage III disease were treated with TAH/BSO plus *radiation* therapy. One patient with stage III disease was treated with unilateral adnexectomy plus combination chemotherapy consisting of vinblastine, bleomycin, dactinomycin, cyclophosphamide, and cisplatin (VAB-VI).

One patient with stage IV disease was treated with decompressive laminectomy with tumor resection, removal of left pelvic mass, *radiation* therapy and adjuvant combination chemotherapy (VAC). In our series, no patient died from dysgerminoma (one patient died of an apparently unrelated cause). The role of *radiation* therapy in the treatment of advanced and recurrent dysgerminoma has been demonstrated. However, the use of combination chemotherapy has been playing an increasingly important role in patients treated with conservative surgery in which preservation of fertility is a concern. Author-abstract.

MJ DYSGERMINOMA: epidemiology (ep). *REGISTRIES.*

MN ADOLESCENCE. ADULT. CONNECTICUT. DYSGERMINOMA: therapy (th). HUMAN.

YR 1989.

IS 0010-6178. DQF.

CP UNITED-STATES (Z1.107.567.875).

IM 8910.

ND ENTRY DATE: 890814.

148

AN 89290828. 89000.

AU Czeizel-A.

IN Department of Human Genetics and Teratology, National Institute of Hygiene, Budapest, Hungary.

TI Hungarian surveillance of germinal mutations. Lack of detectable increase in indicator conditions caused by germinal mutations following the Chernobyl accident.

SO Hum-Genet. 1989 Jul. 82(4). P 359-66.

JT HUMAN GENETICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The Hungarian surveillance of germinal mutations is based on three indicator conditions seen in offspring, i.e., 15 sentinel anomalies, Down syndrome and component anomaly pairs of unidentified multiple congenital anomalies. It is an "opportunistic program," because the necessary data are available from the Hungarian Congenital Malformation *Registry.* This system is described and the criteria of a good *registry* are summarized. The analysis of indicator conditions caused by germinal mutations did not reveal any measurable mutagenic effects in Hungary following the accident at the Chernobyl nuclear power plant. The pros and cons of germinal mutation surveillance are discussed. Author-abstract.

MJ ABNORMALITIES-MULTIPLE: epidemiology (ep).

ABNORMALITIES-RADIATION-INDUCED: epidemiology (ep). ACCIDENTS. MUTATION. NUCLEAR-REACTORS.

MN ABNORMALITIES-MULTIPLE: genetics (ge).

ABNORMALITIES-RADIATION-INDUCED: genetics (ge). DATA-COLLECTION. DOWN-SYNDROME: epidemiology (ep). HUMAN. HUNGARY. INFANT-NEWBORN. UKRAINE.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.
IS 0340-6717. GED.
CP GERMANY-WEST (Z1.542.315.570).
IM 8910.
ND ENTRY DATE: 890808.
CLASS UPDATE: 92.

149

AN 89290495. 89000.
AU Koulos-J-P. Hoffman-J-S. Steinhoff-M-M.
IN Department of Obstetrics and Gynecology, University of Connecticut Health Center, Farmington 06032.
TI Immature teratoma of the ovary.
SO Gynecol-Oncol. 1989 Jul. 34(1). P 46-9.
JT GYNECOLOGIC ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Twenty-five cases of patients with pure immature teratoma of the ovary, accrued from the Connecticut Tumor *Registry* from 1969 to 1984, were reviewed. Two patients had grade 1 tumors, twelve had grade 2 tumors, and eleven had grade 3 tumors. The majority of patients (23) were stage I at the time of initial surgery. Twenty-one of the twenty-three patients were treated with some form of unilateral adnexal surgery with or without adjuvant combination chemotherapy (VAC). Two of the twenty-three patients were treated with total abdominal hysterectomy/bilateral salpingo-oophorectomy (TAH/BSO) with the addition of either VAC chemotherapy or *radiation* therapy. Recurrence occurred in two patients, both of whom had grade 3 tumors and were subsequently treated with surgical resection plus VAC chemotherapy. One patient, who recurred after initial therapy with unilateral salpingo-oophorectomy (USO) plus VAC chemotherapy, was successfully treated with surgical resection and further chemotherapy. Two patients were stage III at the time of initial surgery, one of whom was treated with USO plus adjuvant combination chemotherapy and radio-therapy. The other patient was treated with TAH/BSO plus VAC chemotherapy. In our series, no patient died from immature teratoma (one patient died from advanced breast carcinoma). It is reasonable to withhold chemotherapy from patients with stage I, grade 1 and 2, immature teratoma which may be treated initially with conservative surgery. The risk of recurrence in patients with grade 3 tumors warrants the addition of further chemotherapy.
Author-abstract.
MJ OVARIAN-NEOPLASMS: therapy (th). TERATOMA: therapy (th).
MN ADOLESCENCE. ADULT. ANTINEOPLASTIC-AGENTS-COMBINED: therapeutic-use (tu). CHILD. COMBINED-MODALITY-THERAPY. CYCLOPHOSPHAMIDE: therapeutic-use (tu). DACTINOMYCIN: therapeutic-use (tu). FEMALE. HUMAN. VINCRISTINE: therapeutic-use (tu).
RN 0 -- Antineoplastic-Agents-Combined.
0 -- VAC-protocol.
50-18-0 -- Cyclophosphamide.

50-76-0 -- Dactinomycin.
57-22-7 -- Vincristine.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0090-8258. FXC.
CP UNITED-STATES (Z1.107.567.875).
IM 8910.
ND ENTRY DATE: 890728.
CLASS UPDATE: 92.

150

AN 89270307. 89000.
AU Parker-R-G. Grimm-P. Enstrom-J-E.
IN Department of *Radiation* Oncology, University of California, Los Angeles 90024.
TI Contralateral breast cancers following treatment for initial breast cancers in women.
SO Am-J-Clin-Oncol. 1989 Jun. 12(3). P 213-6.
JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The risk of a second primary cancer arising in the contralateral breast following treatment of an initial breast cancer was evaluated for 1,630 women whose first breast cancers were diagnosed and treated at University of California at Los Angeles between 1955 and 1979. Based on follow-up data ranging from 5 to 30 years, the rate of development of nonsimultaneous contralateral breast cancers was slightly in excess of 2.5 per 1,000 person-years at risk. There was no detectably significant difference in the frequency of second primary cancers related to the type of treatment of the first cancers, whether that was surgery, *radiation* therapy, or surgery plus *radiation* therapy. Author-abstract.
MJ BREAST-NEOPLASMS: therapy (th). NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).
MN BREAST-NEOPLASMS: epidemiology (ep). COMBINED-MODALITY-THERAPY. FEMALE. FOLLOW-UP-STUDIES. HUMAN. LOS-ANGELES. *REGISTRIES.* RISK-FACTORS. TIME-FACTORS.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0277-3732. 3EZ.
CP UNITED-STATES (Z1.107.567.875).
IM 8909.
ND ENTRY DATE: 890706.
CLASS UPDATE: 90.

151

AN 89268602. 89000.
AU Jubelirer-S-J.
TI Long-term survivors of small-cell carcinoma of the lung.
SO W-V-Med-J. 1989 May. 85(5). P 183-6.

JT WEST VIRGINIA MEDICAL JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Small-cell carcinoma of the lung has been shown to be quite responsive to chemotherapy. Unfortunately, these responses are often short in duration, and long-term, disease-free survival is infrequent. This review of tumor *registry* records of all patients with small-cell carcinoma of the lung treated at Charleston Area Medical Center (CAMC) from 1962 to 1983 showed that 21 of 500 (four per cent) survived 30 months or longer. Eighteen patients had limited-extent disease. Although the majority of patients received chemotherapy alone or chemotherapy and *radiation,* there were survivors in all treatment groups (i.e. surgery alone or radiotherapy alone). Six of the 21 long-term survivors eventually had relapses occurring as late as 88 months after diagnosis. The overall poor survival of patients with small-cell lung cancer suggests a need for the development of novel initial approaches to therapy. Author-abstract.

MJ CARCINOMA-OAT-CELL: mortality (mo). LUNG-NEOPLASMS: mortality (mo).

MN AGED. CARCINOMA-OAT-CELL: drug-therapy (dt), radiotherapy (rt). CAUSE-OF-DEATH. FEMALE. HUMAN. LUNG-NEOPLASMS: drug-therapy (dt), radiotherapy (rt). MALE. MIDDLE-AGE. TIME-FACTORS.

YR 1989.

IS 0043-3284. XMR.

CP UNITED-STATES (Z1.107.567.875).

IM 8909.

ND ENTRY DATE: 890706.

CLASS UPDATE: 90.

152

AN 89236446. 89000.

AU Samet-J-M.

IN University of New Mexico, New Mexico Tumor *Registry,* Albuquerque 87131.

TI Radon and lung cancer.

SO J-Natl-Cancer-Inst. 1989 May 10. 81(10). P 745-57.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-MULTICASE (RMC).

LG English (EN).

AB Radon, an inert gas released during the decay of uranium-238, is ubiquitous in indoor and outdoor air and contaminates many underground mines. Extensive epidemiologic evidence from studies of underground miners and complementary animal data have documented that radon causes lung cancer in smokers and nonsmokers. Radon must also be considered a potentially important cause of lung cancer for the general population, which is exposed through contamination of indoor air by radon from soil, water, and building materials. This review describes radon's sources, levels in U.S. homes, dosimetry, the epidemiologic evidence from studies of miners and the general

population, and the principal, recent risk assessments.

Author-abstract. 91 Refs.

MJ LUNG-NEOPLASMS: epidemiology (ep). *NEOPLASMS-RADIATION-INDUCED:*
epidemiology (ep). RADIOACTIVE-POLLUTANTS: analysis (an). RADON:
analysis (an).
MN HUMAN. LUNG-NEOPLASMS: etiology (et). MINING.
OCCUPATIONAL-DISEASES: epidemiology (ep), etiology (et).
RADIOACTIVE-POLLUTANTS: adverse-effects (ae). RADON: adverse-effects
(ae). RISK. SUPPORT-U-S-GOVT-NON-P-H-S. SUPPORT-U-S-GOVT-P-H-S.
UNITED-STATES.
RN 0 -- Radioactive-Pollutants.
10043-92-2 -- Radon.
SB Priority Journals (M). Cancer Journals (X).
YR 1989.
IS 0027-8874. J9J.
CP UNITED-STATES (Z1.107.567.875).
IM 8908.
ND ENTRY DATE: 890615.
CLASS UPDATE: 92.
NO N01CN55426.

153

AN 89207250. 89000.
AU Pfeiffer-P. Mogensen-H. Amtrup-F. Honore-E.
IN Department of Gynecology and Obstetrics, Fredericia Sygehus, Denmark.
TI Primary carcinoma of the fallopian tube. A retrospective study of
patients reported to the Danish Cancer *Registry* in a five-year
period.
SO Acta-Oncol. 1989. 28(1). P 7-11.
JT ACTA ONCOLOGICA.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Fifty-two patients with carcinoma of the fallopian tube diagnosed and
treated during a 5-year period in Denmark were reviewed. The median
age of the patients was 60 years. No patients had a preoperative
diagnosis. History and clinical findings were similar to previously
reported series. Treatment consisted of hysterectomy and bilateral
salpingo-oophorectomy, often succeeded by postoperative whole pelvic
irradiation. Five-year survival was 37.4%, depending on stage. In
stage I+II the survival rates were similar regardless of whether
postoperative *radiation* therapy had been given or not. Little is
known about the patterns of spread. The relatively bad prognosis for
stages I and II after radical surgery indicates early undetected
metastases and the need for more aggressive adjunctive therapy.
Author-abstract.
MJ FALLOPIAN-TUBE-NEOPLASMS: epidemiology (ep).
MN ACTUARIAL-ANALYSIS. COMBINED-MODALITY-THERAPY. DENMARK.
FALLOPIAN-TUBE-NEOPLASMS: pathology (pa), therapy (th). FEMALE.
HUMAN. NEOPLASM-STAGING. *REGISTRIES.* RETROSPECTIVE-STUDIES.
SB Priority Journals (M). Cancer Journals (X).

YR 1989.
IS 0284-186X. AON.
CP SWEDEN (Z1.542.808.843).
IM 8908.
ND ENTRY DATE: 890606.

154

AN 89183907. 89000.
TI Preliminary evaluation of the impact of the Chernobyl radiological contamination on the frequency of central nervous system malformations in 18 regions of Europe. The EUROCAT Working Group.
SO Paediatr-Perinat-Epidemiol. 1988 Jul. 2(3). P 253-64.
JT PAEDIATRIC AND PERINATAL EPIDEMIOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The teratological impact of radiological contamination from the Chernobyl accident was evaluated in relation to central nervous system and eye defects in 18 regional *registries* in nine countries of Western Europe. Six classes of anomaly were analysed: neural tube defects, arhinencephaly, microcephaly and brain reduction, hydrocephaly, anophthalmos and microphthalmos, and congenital cataract. Conceptions up to 31 August 1986 were grouped into two exposure cohorts. In cohort A the sensitive period of fetal development to *radiation* fell wholly or partly between 1 May and 30 June 1986. Cohort B included all cases exposed during their sensitive period on or after 1 May 1986. Observed frequencies of the six classes of anomaly in the exposed cohorts were compared with expected frequencies calculated from baseline rates for the period 1980-1985. The only significant increase was neural tube defects in Odense, Denmark (four cases observed in cohort A where 0.9 were expected). The results of the study do not show a general increase in the frequency of malformations in the countries of Western Europe. The evidence presented indicates that, in the regions studied, termination of pregnancies or invasive prenatal diagnostic examinations were not justified for women exposed during pregnancy. Author-abstract.
MJ *ABNORMALITIES-RADIATION-INDUCED:* epidemiology (ep). ACCIDENTS. CENTRAL-NERVOUS-SYSTEM: abnormalities (ab). EYE: abnormalities (ab). EYE-ABNORMALITIES. NUCLEAR-REACTORS. RADIOACTIVE-POLLUTANTS: adverse-effects (ae).
MN EUROPE. FEMALE. HUMAN. INFANT-NEWBORN. NEURAL-TUBE-DEFECTS: epidemiology (ep). PREGNANCY. *REGISTRIES.* UKRAINE.
RN 0 -- Radioactive-Pollutants.
SB Priority Journals (M).
YR 1988.
IS 0269-5022. PA1.
CP ENGLAND (Z1.542.363.300).
IM 8907.
ND ENTRY DATE: 890502.
CLASS UPDATE: 92.

155

AN 89161562. 89000.
AU Mulvihill-J-J. Byrne-J.
TI Genetic counseling of the cancer survivor.
SO Semin-Oncol-Nurs. 1989 Feb. 5(1). P 29-35.
JT SEMINARS IN ONCOLOGY NURSING.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB Each year, tens of thousands of persons are diagnosed with cancer, are treated, and become survivors while still in their reproductive years. Their concerns about possible germ-cell damage as a result of life-saving *radiation,* chemotherapy, or both are plausible, based on evidence from animal models and from somatic cell mutations in human beings. A 40-year follow-up of survivors of the atomic bomb blasts in Japan showed no detectable genetic damage and suggested that the human gonad is more resistant to radiogenic mutation than the laboratory mouse. The pooled results of studying 12 series of offspring of cancer patients showed a 4% rate of major birth defects (similar to that of the general population) and an excess of fetal loss and low birth weight in offspring of women who received abdominal radiotherapy. According to preliminary evaluation of a new National Cancer Institute collaboration with five cancer *registries,* offspring of survivors of childhood cancers had no more birth defects than expected and, beyond an increase in probably familial cancers in children younger than 5, no overall increase in childhood cancer. Ideally, genetic and reproductive counseling should take place as soon as cancer is diagnosed (before therapy starts) and again when pregnancy is contemplated. Author-abstract. 28 Refs.
MJ GENETIC-COUNSELING. NEOPLASMS: therapy (th). PREGNANCY.
MN ADULT. ANIMAL. ANTINEOPLASTIC-AGENTS: adverse-effects (ae). CHILD. FEMALE. FOLLOW-UP-STUDIES. HUMAN. MALE. NEOPLASMS: genetics (ge). OVARY: drug-effects (de), *radiation-effects* (re). RADIOTHERAPY: adverse-effects (ae). TESTIS: drug-effects (de), *radiation-effects* (re).
RN 0 -- Antineoplastic-Agents.
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0749-2081. SEM.
CP UNITED-STATES (Z1.107.567.875).
IM 8906.
ND ENTRY DATE: 890420.
CLASS UPDATE: 91.

156

AN 89152369. 89000.
AU Chetty-K-G. Moran-E-M. Sassoan-C-S. Viravathana-T. Light-R-W.
IN Department of Medicine, VA Medical Center, Long Beach.
TI Effect of *radiation* therapy on bronchial obstruction due to

bronchogenic carcinoma.

SO Chest. 1989 Mar. 95(3). P 582-4.

JT CHEST.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We evaluated the effect of *radiation* therapy in 57 patients with obstruction of a large bronchus with NSCC. Response with aeration of the atelectatic lung was seen in 12 patients (21 percent). Three patients (5 percent) showed partial response with persistent partial atelectasis, and nine patients (16 percent) showed good response with complete aeration of the atelectatic lung. In these patients the response appeared to be related to the dose of *radiation.* All of the patients who responded received more than 50 Gy. The difference in the response rate related to the dose of *radiation* was statistically significant (p less than 0.05). The rates were similar with all histologic types of NSCC. Regardless of the clinical response observed, bronchoscopy performed two to four months after completion of *radiation* therapy in 14 patients revealed persistent endobronchial tumor. There was no significant relationship between the persistence of endobronchial tumor, the dose of *radiation* therapy, and the tumor's histologic type. Of the 12 patients with radiographic improvement in atelectasis, fibrotic changes developed in four (33 percent) patients and pneumonitis in two (17 percent). Progression of disease with distant metastases occurred in 58 percent (seven) of the 12 patients who showed a clinical response of their bronchial obstruction. The median time to survival was nearly identical in responders and nonresponders. Author-abstract.

MJ AIRWAY-OBSTRUCTION: radiotherapy (rt). CARCINOMA-BRONCHOGENIC: radiotherapy (rt). LUNG-NEOPLASMS: radiotherapy (rt).

MN AGED. AIRWAY-OBSTRUCTION: etiology (et). BRONCHOSCOPY.

CARCINOMA-BRONCHOGENIC: complications (co).

DOSE-RESPONSE-RELATIONSHIP-RADIATION. EVALUATION-STUDIES. HUMAN.

LUNG-DISEASES: etiology (et). LUNG-NEOPLASMS: complications (co).

MALE. MEDICAL-RECORDS. MIDDLE-AGE. PROGNOSIS. *RADIATION-INJURIES:* etiology (et). *REGISTRIES.*

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0012-3692. D1C.

CP UNITED-STATES (Z1.107.567.875).

IM 8906.

ND ENTRY DATE: 890412.

157

AN 89151264. 89000.

AU Minsky-B-D. Rich-T. Recht-A. Harvey-W. Mies-C.

IN Department of *Radiation* Oncology, Memorial Sloan Kettering Cancer Center, New York, NY 10021.

TI Selection criteria for local excision with or without adjuvant *radiation* therapy for rectal cancer.

SO Cancer. 1989 Apr 1. 63(7). P 1421-9.

JT CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB As an alternative to radical surgery, local excision with or without adjuvant pelvic *radiation* therapy has been used in selected patients with rectal cancer. To determine which clinical and pathologic features can predict the presence of positive lymph nodes (LN+), a retrospective review of 168 patients who underwent potentially curative surgery for rectosigmoid and rectal cancer was performed. By univariate analysis, tumor penetration, grade, and histology were significant predictive features. This was confirmed by logistic regression analysis. The incidence of LN+ increased with increasing tumor penetration (T1, 0%; T2, 28%; T3, 36%; T4, 53%; $P = 0.04$), grade of adenocarcinoma (well-differentiated, 0%; moderately differentiated, 30%; poorly differentiated, 50%; $P = 0.07$, `borderline significance:), and the presence of any colloid histology (pure adenocarcinoma, 30%; total colloid, 52%; $P = 0.04$). Using 2 X 2 contingency tables, the presence of blood vessel invasion (BVI), lymphatic vessel invasion (LVI), vascular invasion (VI), total colloid histology, and high grade further increased the incidence of LN+ with increasing tumor penetration. Regardless of tumor size, grade, histology, BVI, LVI, or VI, none of the nine patients with Stage T1 tumors or the seven with well-differentiated adenocarcinomas had LN+. For this group, local excision alone is recommended. The incidence of LN+ was greater than or equal to 19% in all other categories. For this group of patients, if there is no evidence of gross tumor in the pelvis, then a local excision plus adjuvant pelvic *radiation* may be an alternative to radical surgery.

Author-abstract.

MJ ADENOCARCINOMA: pathology (pa). RECTAL-NEOPLASMS: pathology (pa). SIGMOID-NEOPLASMS: pathology (pa).

MN ADENOCARCINOMA: radiotherapy (rt), surgery (su). ADULT. AGED. AGED-80-AND-OVER. COMBINED-MODALITY-THERAPY. FEMALE. HUMAN. LYMPHATIC-METASTASIS. MALE. MIDDLE-AGE. NEOPLASM-INVASIVENESS: pathology (pa). NEOPLASM-STAGING. RECTAL-NEOPLASMS: radiotherapy (rt), surgery (su). *REGISTRIES.* REGRESSION-ANALYSIS. RETROSPECTIVE-STUDIES. SIGMOID-NEOPLASMS: radiotherapy (rt), surgery (su). SUPPORT-NON-U-S-GOVT.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0008-543X. CLZ.

CP UNITED-STATES (Z1.107.567.875).

IM 8906.

ND ENTRY DATE: 890418.

158

AN 89139037. 89000.

AU Goldsmith-R. Boice-J-D Jr. Hrubec-Z. Hurwitz-P-E. Goff-T-E.

Wilson-J.
 IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda,
 MD 20892.
 TI Mortality and career *radiation* doses for workers at a commercial
 nuclear power plant: feasibility study.
 SO Health-Phys. 1989 Feb. 56(2). P 139-50.
 JT HEALTH PHYSICS.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Career *radiation* doses for 8,961 male workers at the Calvert Cliffs
 Nuclear Power Plant (CCNPP) were determined for both utility (n =
 4,960) and contractor (n = 4,001) employees. Workers were followed
 from the time of first employment at CCNPP (including plant
 construction) to the end of 1984 (mean follow-up = 5.4 y). Plant
 operation began in 1975. The mean duration of employment was 1.9 y
 at CCNPP and 3.1 y in the nuclear industry. Career *radiation* doses
 were determined from dosimetry records kept by the utility company
 and the U.S. Nuclear Regulatory Commission (NRC). For all exposed
 workers, the average career dose was 21 mSv and was higher for
 contractor (30 mSv) than utility (13 mSv) workers. Career doses were
 also higher among those employed in the nuclear industry for greater
 than or equal to 15 y (111 mSv) and among workers classified as
 health physicists (56 mSv). Cumulative doses of greater than or
 equal to 50 mSv were received by 12% of the workers; the maximum
 career dose reported was 470 mSv. The availability of social
 security numbers for practically all employees facilitated
 record-linkage methods to determine mortality; 161 deaths were
 identified. On average the workers experienced mortality from all
 causes that was 15% less than that of the general population of the
 U.S., probably due to healthier members of the population being
 selected for employment. Our investigation demonstrates that
 historical information is available from which career doses could be
 constructed and that, in principle, it is feasible to conduct
 epidemiologic studies of nuclear power plant workers in the U.S.
 Although difficult, the approach taken could prove useful until such
 time as a comprehensive *registry* of U.S. *radiation* workers is
 established. Author-abstract.
 MJ MORTALITY. NUCLEAR-ENERGY. OCCUPATIONAL-MEDICINE.
 RADIATION-DOSAGE.
 MN ADULT. CAUSE-OF-DEATH. HUMAN. MALE. MIDDLE-AGE. POWER-PLANTS.
 UNITED-STATES.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1989.
 IS 0017-9078. G2H.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8906.
 ND ENTRY DATE: 890403.

AU Inoue-T. Masaoka-T. Shibata-H.
 IN Department of *Radiation* Therapy, Center for Adult Diseases, Osaka,
 Japan.
 TI Interstitial pneumonitis following allogeneic bone marrow
 transplantation in the treatment of leukemia based on BMT survey in
 Japan.
 SO Strahlenther-Onkol. 1988 Dec. 164(12). P 729-33.
 JT STRAHLENTHERAPIE UND ONKOLOGIE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB Data from 208 patients with leukemia who were treated with allogeneic
 bone marrow transplantation between 1975 and 1985 were reported to
 the Japanese Bone Marrow Transplant *Registry* and were available for
 this analysis. These patients were classified into 82 of acute
 lymphocytic leukemia, 91 of acute non-lymphocytic leukemia, and 35 of
 chronic myelocytic leukemia. The incidence of interstitial
 pneumonitis (IP) was 39% (81/208) and fatality rate was 60% (49/81).
 Cytomegalovirus was the most frequent causative organism (54%).
 Using Cox's proportional hazard regression model, age of recipient (P
 = 0.0068), status of disease (P = 0.0191), and number of platelet
 transfusion (P = 0.0425) were found to be significant risk factors
 associated with IP. Probabilities of developing IP at three years
 were 65% and 42% in single dose and fractionated total body
 irradiation (TBI), respectively. In single dose TBI group, dose-rate
 affected the incidence of IP. On the contrary, in fractionated TBI
 group, number of fractions as well as dose-rate had no impact on the
 incidence of IP. Author-abstract.
 MJ BONE-MARROW: transplantation (tr). BONE-MARROW-TRANSPLANTATION.
 LEUKEMIA: therapy (th). PULMONARY-FIBROSIS: etiology (et).
 MN ADULT. FEMALE. HUMAN. JAPAN. LEUKEMIA-LYMPHOCYTIC-ACUTE: therapy
 (th). LEUKEMIA-MYELOID-CHRONIC: therapy (th).
 LEUKEMIA-NONLYMPHOCYTIC-ACUTE: therapy (th). MALE.
 POSTOPERATIVE-COMPLICATIONS. *REGISTRIES.* SUPPORT-NON-U-S-GOVT.
 SB Priority Journals (M). Cancer Journals (X).
 YR 1988.
 IS 0179-7158. VCM.
 CP GERMANY-WEST (Z1.542.315.570).
 IM 8904.
 ND ENTRY DATE: 890209.
 CLASS UPDATE: 90.

160

AN 89084587. 89000.
 AU Loggie-B-W. Eddy-J-A.
 IN Division of Surgical Oncology, Cook County Hospital, Boulder, CO.
 TI Solar considerations in the development of cutaneous melanoma.
 SO Semin-Oncol. 1988 Dec. 15(6). P 494-9.
 JT SEMINARS IN ONCOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).

AB On the basis of these considerations, the possible action spectrum for melanoma can be narrowed considerably, but not confined to any one solar emission band. The physical factors discussed eliminate all but UV, visible, and NIR *radiation* as possible solar agents. Ionizing *radiation* fits neither the epidemiologic data nor first-order physical considerations. Wavelengths longer than the NIR wavelengths, although they could conceivably account for the occurrence of melanoma under clothed parts of the body, carry so little energy that they are probably unimportant. Epidemiologic evidence regarding the effects of skin pigment favors UV or visible *radiation.* A distinction between these two components is not obvious; UV-C and UV-B photons carry greater energy and are more likely to induce biochemical cutaneous effects, but the total flux in the UV-A and visible *radiations* is far greater. That UV-B *radiation* may play a role in melanoma is supported; at the same time, one cannot exclude the possibility that the action spectrum for melanoma is, instead, the UV-A, the visible, or even the NIR portion of the sunlight spectrum. The strong differential effect of altitude on the transmission of light of different wavelengths might serve as an important discriminating variable. If solar UV *radiation* is implicated in the development of melanoma, then altitude should emerge as a significant factor in epidemiologic studies. If visible or IR *radiation* is the active agent, then differences on the basis of altitude should be small or negligible. Intrinsic solar variations that follow the annual sunspot number appear inadequate in either the UV or the visible band to account directly for the apparent 11-year modulation of melanoma incidence found in some *registries.* Secondary atmospheric effects brought about by the action of solar UV changes on the ozone layer may be adequate to explain a weak 11-year modulation in melanoma incidence, although continuous measurements of UV-B flux made at sites in the United States through a full solar cycle have shown no such effect. Nor do these early measurements reveal the long-term increase in UV-B intensity expected from the destruction of stratospheric ozone by industrial pollutants over the last 10 years. Author-abstract.

MJ MELANOMA: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et).

SKIN-NEOPLASMS: etiology (et). SUNLIGHT: adverse-effects (ae).

MN HUMAN. *RADIATION-DOSAGE.* ULTRAVIOLET-RAYS: adverse-effects (ae).

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0093-7754. UN5.

CP UNITED-STATES (Z1.107.567.875).

IM 8904.

ND ENTRY DATE: 890206.

161

AN 89080800. 89000.

AU Curtis-R-E. Boice-J-D Jr. Stovall-M. Flannery-J-T. Moloney-W-C.

IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda, MD 20892.

TI Leukemia risk following radiotherapy for breast cancer.

SO J-Clin-Oncol. 1989 Jan. 7(1). P 21-9.

JT JOURNAL OF CLINICAL ONCOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB To evaluate further the relationship between high-dose radiotherapy and leukemia incidence, a nested case-control study was conducted in a cohort of 22,753 women who were 18-month survivors of invasive breast cancer diagnosed from 1935 to 1972. Women treated for breast cancer after 1973 were excluded to minimize the possible confounding influence of treatment with chemotherapeutic agents. The cases had histologically confirmed leukemia reported to the Connecticut Tumor *Registry* (CTR) between 1935 and 1984. A total of 48 cases of leukemia following breast cancer were included in the study. Two controls were individually matched to each leukemia case on the basis of age, calendar year when diagnosed with breast cancer, and survival time. Leukemia diagnoses were verified by one hematologist. *Radiation* dose to active bone marrow was estimated by medical physicists on the basis of the original radiotherapy records of study subjects. Local *radiation* doses to each of the 16 bone marrow components for each patient were reconstructed; the dose averaged over the entire body was 530 rad (5.3 Gy). Based on this dosage and assuming a linear relationship between dose and affect, a relative risk (RR) in excess of 10 would have been expected. However, there was little evidence that radiotherapy increased the overall risk of leukemia (RR = 1.16; 90% confidence interval `CI:, 0.6 to 2.1). The risk of chronic lymphocytic leukemia, one of the few malignancies without evidence for an association with ionizing *radiation,* was not significantly increased (RR = 1.8; n = 10); nor was the risk for all other forms of leukemia (RR = 1.0; n = 38). There was no indication that risk varied over categories of *radiation* dose. These data exclude an association between leukemia and radiotherapy for breast cancer of 2.2-fold with 90% confidence, and provide further evidence that cell death predominates over cell transformation when high *radiation* doses are delivered to limited volumes of tissue. Author-abstract.

MJ BREAST-NEOPLASMS: radiotherapy (rt). *LEUKEMIA-RADIATION-INDUCED:* epidemiology (ep).

MN AGED. BONE-MARROW: *radiation-effects* (re). CONNECTICUT. EPIDEMIOLOGIC-METHODS. FEMALE. HUMAN. MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS.

SB Priority Journals (M). Cancer Journals (X).

YR 1989.

IS 0732-183X. JCO.

CP UNITED-STATES (Z1.107.567.875).

IM 8904.

ND ENTRY DATE: 890209.

AU Flandrin-G. Coiffier-B.
 IN Laboratoire central d'Hematologie, Hopital Saint-Louis, Paris.
 TI `Perspectives for an epidemiological study of hairy cell leukemia:.
 TT Perspectives pour une etude epidemiologique de la leucemie a
 tricholeucocytes.
 SO C-R-Acad-Sci-III. 1988. 307(3). P 105-7.
 JT COMPTES RENDUS DE L ACADEMIE DES SCIENCES. SERIE III, SCIENCES DE LA
 VIE.
 PT JOURNAL-ARTICLE (ART).
 LG French (FR).
 AB A strong male predominance (4/1) has been noticed in all series of
 hairy cell leukemia (HCL) and we wonder whether there could be a link
 between male predominance and occupation. From a series of 161
 patients observed by two different groups, the repartition of
 profession suggest an aetiological link between HCL and occupational
 exposure, particularly *radiation,* benzene and other solvents, since
 it appears that the proportion of medical workers (6%), mechanic
 divers (22%), printers and painters (10%) and farmers (11%) represent
 a high proportion of patients. Aware of the relative rarity of the
 disease we suggested to set up a national *registry* of the cases of
 HCL, the precise incidence of which remains unknown, and to start a
 classical case-referent study. Author-abstract.
 MJ LEUKEMIA-HAIRY-CELL: etiology (et). OCCUPATIONAL-DISEASES: etiology
 (et).
 MN ENGLISH-ABSTRACT. FEMALE. FRANCE. HUMAN. LEUKEMIA-HAIRY-CELL:
 epidemiology (ep). MALE. RISK-FACTORS.
 SB Priority Journals (M).
 YR 1988.
 IS 0764-4469. CA1.
 CP FRANCE (Z1.542.286).
 IM 8904.
 ND ENTRY DATE: 890209.
 CLASS UPDATE: 91.

163

AN 89060243. 89000.
 AU Nasca-P-C. Baptiste-M-S. MacCubbin-P-A. Metzger-B-B. Carlton-K.
 Greenwald-P. Armbrustmacher-V-W. Earle-K-M. Waldman-J.
 IN Division of Epidemiology, New York State Department of Health, Albany
 12237.
 TI An epidemiologic case-control study of central nervous system tumors
 in children and parental occupational exposures.
 SO Am-J-Epidemiol. 1988 Dec. 128(6). P 1256-65.
 JT AMERICAN JOURNAL OF EPIDEMIOLOGY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A population-based case-control study was conducted with 338 patients
 less than 15 years of age who were diagnosed with a primary tumor of
 the central nervous system from January 1968 through December 1977 in
 53 contiguous New York counties. The study also included 676

controls who were selected from the birth certificate files of the New York State Department of Health. Parental occupational exposures at the time of each child's birth and at the time of tumor diagnosis were derived from maternal interviews. The current data set failed to show any consistent association between childhood central nervous system tumor risk and paternal occupational exposures to hydrocarbons or to electromagnetic fields, or employment in the aerospace industry or pulp and paper manufacturing. Findings for occupational exposures to ionizing *radiation* were also inconsistent. A positive association was observed between central nervous system tumor risk and paternal exposures to ionizing *radiation* based on industrial codes. Odds ratios ranged from 1.71 to 2.15. This association was not observed when paternal occupational titles were used to define exposure (range of odds ratios, 1.01-1.10). Maternal exposures to ionizing *radiation* were not related to risk regardless of the classification scheme used. Author-abstract.

MJ BRAIN-NEOPLASMS: etiology (et). ENVIRONMENTAL-EXPOSURE. PARENTS.
MN ADOLESCENCE. ADULT. BRAIN-NEOPLASMS: epidemiology (ep). CHILD.
CHILD-PRESCHOOL. EDUCATIONAL-STATUS. EPIDEMIOLOGIC-METHODS.
FEMALE. HUMAN. INFANT. MALE. *NEOPLASMS-RADIATION-INDUCED: *
epidemiology (ep). NEW-YORK. *REGISTRIES.* SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0002-9262. 3H3.
CP UNITED-STATES (Z1.107.567.875).
IM 8903.
ND ENTRY DATE: 890105.
NO 1ROCA26194.

164

AN 89042700. 89000.
AU Boice-J-D Jr. Engholm-G. Kleinerman-R-A. Blettner-M. Stovall-M.
Lisco-H. Moloney-W-C. Austin-D-F. Bosch-A. Cookfair-D-L. et al.
IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda,
Maryland 20892.
TI *Radiation* dose and second cancer risk in patients treated for cancer
of the cervix.
SO Radiat-Res. 1988 Oct. 116(1). P 3-55.
JT *RADIATION* RESEARCH.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The risk of cancer associated with a broad range of organ doses was
estimated in an international study of women with cervical cancer.
Among 150,000 patients reported to one of 19 population-based cancer
registries or treated in any of 20 oncology clinics, 4188 women with
second cancers and 6880 matched controls were selected for detailed
study. *Radiation* doses for selected organs were reconstructed for
each patient on the basis of her original radiotherapy records. Very
high doses, on the order of several hundred gray, were found to
increase the risk of cancers of the bladder `relative risk (RR) =

4.0:; rectum (RR = 1.8), vagina (RR = 2.7), and possibly bone (RR = 1.3), uterine corpus (RR = 1.3), cecum (RR = 1.5), and non-Hodgkin's lymphoma (RR = 2.5). For all female genital cancers taken together, a sharp dose-response gradient was observed, reaching fivefold for doses more than 150 Gy. Several gray increased the risk of stomach cancer (RR = 2.1) and leukemia (RR = 2.0). Although cancer of the pancreas was elevated, there was no evidence of a dose-dependent risk. Cancer of the kidney was significantly increased among 15-year survivors. A nonsignificant twofold risk of radiogenic thyroid cancer was observed following an average dose of only 0.11 Gy.

Breast cancer was not increased overall, despite an average dose of 0.31 Gy and 953 cases available for evaluation (RR = 0.9); there was, however, a weak suggestion of a dose response among women whose ovaries had been surgically removed. Doses greater than 6 Gy to the ovaries reduced breast cancer risk by 44%. A significant deficit of ovarian cancer was observed within 5 years of radiotherapy; in contrast, a dose response was suggested among 10-year survivors.

Radiation was not found to increase the overall risk of cancers of the small intestine, colon, ovary, vulva, connective tissue, breast, Hodgkin's disease, multiple myeloma, or chronic lymphocytic leukemia. For most cancers associated with *radiation,* risks were highest among long-term survivors and appeared concentrated among women irradiated at relatively younger ages. Author-abstract.

MJ CERVIX-NEOPLASMS: radiotherapy (rt). NEOPLASMS-MULTIPLE-PRIMARY: etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). RADIOTHERAPY: adverse-effects (ae). RADIOTHERAPY-DOSAGE.

MN FEMALE. HUMAN. MIDDLE-AGE. RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S.

SB Priority Journals (M). Cancer Journals (X). YR 1988.

IS 0033-7587. QMP.

CP UNITED-STATES (Z1.107.567.875).

IM 8902.

ND ENTRY DATE: 881209.

NO N01CP11017. N01CP01047. N01CP31035.

165

AN 89014610. 89000.

AU Ron-E. Modan-B. Boice-J-D Jr. Alfandary-E. Stovall-M. Chetrit-A. Katz-L.

IN Department of Clinical Epidemiology, Chaim Sheba Medical Center, Tel Hashomer, Israel.

TI Tumors of the brain and nervous system after radiotherapy in childhood.

SO N-Engl-J-Med. 1988 Oct 20. 319(16). P 1033-9.

JT NEW ENGLAND JOURNAL OF MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We investigated the relation between radiotherapy in childhood for tinea capitis and the later development of tumors of the brain and

nervous system among 10,834 patients treated between 1948 and 1960 in Israel. Benign and malignant tumors were identified from the pathology records of all Israeli hospitals and from Israeli national cancer and death *registries.* Doses of *radiation* to the neural tissue were retrospectively estimated for each patient (mean, 1.5 Gy). Sixty neural tumors developed in the patients exposed as children, and the 30-year cumulative risk (+/- SE) was 0.8 +/- 0.2 percent. The incidence of tumors was 1.8 per 10,000 persons per year. The estimated relative risk as compared with that for 10,834 matched general-population controls and 5392 siblings who had not been irradiated was 6.9 (95 percent confidence interval, 4.1 to 11.6) for all tumors and 8.4 (confidence interval, 4.8 to 14.8) when the analysis was restricted to neural tumors of the head and neck. Increased risks were apparent for meningiomas (relative risk, 9.5; n = 19), gliomas (relative risk, 2.6; n = 7), nerve-sheath tumors (relative risk, 18.8; n = 25), and other neural tumors (relative risk, 3.4; n = 9). A strong dose--response relation was found, with the relative risk approaching 20 after estimated doses of approximately 2.5 Gy. Our study confirms that *radiation* doses on the order of 1 to 2 Gy can significantly increase the risk of neural tumors. Author-abstract.

- MJ BRAIN-NEOPLASMS: etiology (et). HEAD-AND-NECK-NEOPLASMS: etiology (et). *NEOPLASMS-RADIATION-INDUCED.* RADIOTHERAPY: adverse-effects (ae).
- MN ADOLESCENCE. BRAIN: *radiation-effects* (re). BRAIN-NEOPLASMS: epidemiology (ep).CHILD. CHILD-PRESCHOOL. *DOSE-RESPONSE-RELATIONSHIP-RADIATION.* FEMALE. FOLLOW-UP-STUDIES. GLIOMA: epidemiology (ep), etiology (et). HEAD-AND-NECK-NEOPLASMS: epidemiology (ep). HUMAN. INFANT. MALE. MENINGIOMA: epidemiology (ep), etiology (et). *NEOPLASMS-RADIATION-INDUCED:* epidemiology (ep). NEURILEMMOMA: epidemiology (ep), etiology (et). RISK-FACTORS. TINEA-CAPITIS: radiotherapy (rt).
- SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
- YR 1988.
- IS 0028-4793. NOW.
- CP UNITED-STATES (Z1.107.567.875).
- IM 8901.
- ND ENTRY DATE: 881101.

166

- AN 88321108. 88000.
- AU Egawa-S. Tsukiyama-I. Ono-R. Akine-Y. Kajiura-Y. Ogino-T. Sakudo-M. Arimoto-H. Umegaki-Y. Kitagawa-T. et al.
- IN Department of *Radiation* Therapy, National Cancer Center Hospital, Tokyo, Japan.
- TI Classification of the 16,471 patients treated by *radiation* therapy from 1962 to 1986, and crude five-year survival rates of patients in each category of radiotherapy treatment from 1962 to 1978 in the National Cancer Center Hospital.

SO Radiat-Med. 1988 Jan-Feb. 6(1). P 23-32.

JT *RADIATION* MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The summation and classification of patients registered for planned *radiation* therapy in the 24-year period from 1962 to 1986, in the Department of *Radiation* Therapy, National Cancer Center Hospital, are reported. Patients numbered 16,471, and total sessions of treatment were 26,175. The ratio of the two figures, 1.58, is the average number of treatment sessions per patient. Peak age was 61-65 years' old and 56-60 years old, respectively for males and females. The most frequent primary site of disease for *radiation* therapy was the head and neck, followed by trachea, bronchus and lung, cervix uteri, breast, and esophagus. Frequency of squamous cell carcinoma was 38.0%; that of adenocarcinoma was 20.9%. Radical treatment was performed in 32.0% of patients in the first session, but this figure decreased to 24.7% for all sessions. There were many cases of secondary and primary palliative treatment, i.e., 31.8%. Radiotherapy was done in 70% of patients by megavoltage X-ray, with 9.4% treated by electron beam. Crude 5-year survival rates for each classification of malignant disease respective to the category of treatment policy from 1962 to 1978 were obtained. Among the radical treatment group, head and neck tumors, skin cancer, and Hodgkin's disease showed 5-year survival rates greater than 50%.

Author-abstract.

MJ NEOPLASMS: radiotherapy (rt).

MN ADOLESCENCE. ADULT. AGED. AGED-80-AND-OVER. BRACHYTHERAPY.

CANCER-CARE-FACILITIES. CHILD. CHILD-PRESCHOOL. FEMALE.

FOLLOW-UP-STUDIES. HUMAN. INFORMATION-SYSTEMS. JAPAN. MALE.

MIDDLE-AGE. NEOPLASMS: classification (cl), mortality (mo).

REGISTRIES.

SB Priority Journals (M).

YR 1988.

IS 0288-2043. RAD.

CP JAPAN (Z1.252.474.463).

IM 8812.

ND ENTRY DATE: 881004.

CLASS UPDATE: 90.

167

AN 88314589. 88000.

AU Kathren-R-L.

IN United States Transuranium and Uranium *Registries,* Hanford Environmental Health Foundation, Richland, WA 99352.

TI Implications of human tissue studies for *radiation* protection.

SO Health-Phys. 1988 Aug. 55(2). P 315-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Through radiochemical analysis of voluntary tissue donations, the

U.S. Transuranium and Uranium *Registries* (USTR) are gaining improved understanding of the distribution and biokinetics of actinide elements in occupationally exposed persons. Evaluation of the first two whole-body contributions to the USTR revealed an inverse proportionality between actinide concentration and bone ash. The analysis of a whole body with significant ²⁴¹Am deposition indicated a significantly shorter half-time in liver and a greater fraction resident in the skeleton than predicted by existing models. Other studies with tissues obtained at autopsy suggest that existing biokinetic models for ²³⁸Pu and ²⁴¹Am and the currently accepted models and limits on intake, which use these models as their basis, may be inaccurately implying that revisions of existing safety standards may be necessary. Other studies of the *registries* are designed to evaluate in-vivo estimates of actinide deposition with those derived from postmortem tissue analysis, to compare results of animal experiments with human data, and to review histopathologic slides for tissue changes that might be attributable to exposure to transuranic elements. The implications of these recent findings and other work of the *registries* is discussed from the standpoint of this potential effect on biokinetic modeling, internal dose assessment, and safety standards and operational health physics practices.
Author-abstract.

MJ METALS-ACTINIDE: analysis (an), pharmacokinetics (pk).
RADIATION-PROTECTION. URANIUM: pharmacokinetics (pk).
MN BONE-AND-BONES: analysis (an). HEALTH-PHYSICS. HUMAN. KIDNEY:
radiation-effects (re).MAXIMUM-PERMISSIBLE-EXPOSURE-LEVEL.
RADIATION-INJURIES: etiology (et). *REGISTRIES.*
SUPPORT-U-S-GOVT-NON-P-H-S. TISSUE-DONORS. URANIUM: adverse-effects
(ae).
RN 0 -- Metals-Actinide.
7440-61-1 -- Uranium.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0017-9078. G2H.
CP UNITED-STATES (Z1.107.567.875).
IM 8812.
ND ENTRY DATE: 881007.
CLASS UPDATE: 92.

168

AN 88293262. 88000.
AU Traboulsi-E-I. Zimmerman-L-E. Manz-H-J.
IN Department of Ophthalmology, Georgetown University Medical Center,
Washington, DC 20007.
TI Cutaneous malignant melanoma in survivors of heritable
retinoblastoma.
SO Arch-Ophthalmol. 1988 Aug. 106(8). P 1059-61.
JT ARCHIVES OF OPHTHALMOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-OF-REPORTED-CASES
(RRC).

LG English (EN).

AB Six survivors of bilateral retinoblastoma developed cutaneous malignant melanoma 20 to 51 years (average, 31 years) after initial therapy for the ocular tumor. Five patients received *radiation* therapy to the orbital area. In two patients the cutaneous malignant melanoma developed in the field of irradiation. Two patients developed multiple cutaneous melanomas and are thought to have the dysplastic nevus syndrome. At this writing two patients are alive and well after wide resection of their skin tumors. A review of the literature suggests that cutaneous malignant melanoma accounts for about 7% of second malignant neoplasms in survivors of heritable retinoblastoma. Author-abstract. 39 Refs.

MJ EYE-NEOPLASMS: genetics (ge). MELANOMA: etiology (et).

RETINOBLASTOMA: genetics (ge). SKIN-NEOPLASMS: etiology (et).

MN ADULT. FEMALE. HUMAN. MALE. NEOPLASMS-MULTIPLE-PRIMARY: etiology (et). *REGISTRIES.* SUPPORT-NON-U-S-GOVT.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1988.

IS 0003-9950. 830.

CP UNITED-STATES (Z1.107.567.875).

IM 8811.

ND ENTRY DATE: 880901.

CLASS UPDATE: 90.

169

AN 88264296. 88000.

AU De-Carli-A. Heer-M. Espinosa-N. Benz-J. Krampf-K. Sulser-H. Hany-A.

IN Medizinische und Chirurgische Klinik, Kantonsspital Winterthur.

TI `Colorectal carcinoma following radiotherapy of gynecological carcinoma:.

TT Das kolorektale Karzinom nach Radiotherapie von gynakologischen Karzinomen.

SO Schweiz-Med-Wochenschr. 1988 May 14. 118(19). P 716-21.

JT SCHWEIZERISCHE MEDIZINISCHE WOCHENSCHRIFT. JOURNAL SUISSE DE MEDECINE.

PT JOURNAL-ARTICLE (ART).

LG German (GE).

AB To assess the risk of *radiation-induced* cancer of the colon we studied 196 patients with a history of *radiation* treatment for cancer of the female genital system. After a median follow-up of 12.4 years (range 10-15 years) corresponding to 1172 patient-years, 94 (48%) patients were still alive. 84 (89%) of these patients were evaluated for a second primary cancer to the colon. In 38 (45%) colonoscopic examination was performed. 3 patients were found to have a second primary cancer to the colon compared with 0.32 expected (relative risk 9.3) on the basis of rates from the Zurich Tumor *Registry.* Due to partial long-term survival, patient non-compliance and non-feasibility of colonoscopic examination, only one fourth of all patients initially treated by radiotherapy for cancers of the female

genital system were suitable for colon screening. For these high risk women, colorectal tumor screening should be integrated into a gynecologic tumor follow-up. Author-abstract.

MJ COLONIC-NEOPLASMS: etiology (et). GENITAL-NEOPLASMS-FEMALE: radiotherapy (rt). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). RADIOTHERAPY-HIGH-ENERGY: adverse-effects (ae). RECTAL-NEOPLASMS: etiology (et).
MN ADULT. AGED. CASE-REPORT. COLONIC-NEOPLASMS: diagnosis (di). COLONOSCOPY. ENGLISH-ABSTRACT. FEMALE. HUMAN. MIDDLE-AGE. RECTAL-NEOPLASMS: diagnosis (di).
SB Priority Journals (M).
YR 1988.
IS 0036-7672. UEI.
CP SWITZERLAND (Z1.542.883).
IM 8810.
ND ENTRY DATE: 880729.
CLASS UPDATE: 91.

170

AN 88253151. 88000.
AU Horn-P-L. Thompson-W-D.
IN Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut 06510.
TI Risk of contralateral breast cancer. Associations with histologic, clinical, and therapeutic factors.
SO Cancer. 1988 Jul 15. 62(2). P 412-24.
JT CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A case-control study was conducted to assess the risk factors associated with the development of a contralateral primary breast cancer among women who had had a first primary breast cancer. Hospital records were reviewed for 292 women with an incident contralateral breast cancer, diagnosed in one of eight hospitals between July 1, 1975 and December 31, 1983, and for a comparison group of 264 surviving unilateral breast cancer patients, previously diagnosed in the same hospitals. All subjects were identified through the records of the Connecticut Tumor *Registry.* Having an initial tumor containing lobular carcinoma was associated with an almost twofold increased risk of developing a contralateral cancer (aOR = 1.8; 95% CI: 1.0-3.5). Among those for whom a progesterone receptor assay was available, a positive assay was associated with an increased risk of a contralateral primary (aOR = 3.2; 95% CI: 1.0-9.5). AB blood type was also associated with an elevated risk, but this elevation was not statistically significant (aOR = 2.3; 95% CI: 0.7-7.7). Having received *radiation* treatment was not significantly associated with the risk of a contralateral primary (aOR = 0.9; 95% CI: 0.6-1.4), whereas chemotherapy treatment was associated with a significantly lowered risk (aOR = 0.3; 95% CI: 0.1-0.7). The association with chemotherapy appeared to be modified

by body build (ROR = 1.5; 95% CI: 1.0-2.3 for a 2.5-unit differential in Quetelet's index). Author-abstract.

MJ BREAST-NEOPLASMS: etiology (et). NEOPLASMS-MULTIPLE-PRIMARY: etiology (et).

MN ADULT. AGE-FACTORS. ANTINEOPLASTIC-AGENTS: therapeutic-use (tu). BLOOD-GROUPS. BREAST-NEOPLASMS: drug-therapy (dt), radiotherapy (rt). FEMALE. HUMAN. NEOPLASM-METASTASIS. PARITY. RECEPTORS-ESTROGEN: analysis (an). RECEPTORS-PROGESTERONE: analysis (an). RISK-FACTORS. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. TIME-FACTORS.

RN 0 -- Antineoplastic-Agents.
 0 -- Blood-Groups.
 0 -- Receptors-Estrogen.
 0 -- Receptors-Progesterone.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0008-543X. CLZ.

CP UNITED-STATES (Z1.107.567.875).

IM 8810.

ND ENTRY DATE: 880810.
 CLASS UPDATE: 91.

NO CA09279. CA39477.

171

AN 88250235. 88000.

AU Severson-R-K. Stevens-R-G. Kaune-W-T. Thomas-D-B. Heuser-L. Davis-S. Sever-L-E.

IN Japan-Hawaii Cancer Study, Kuakini Medical Center, Honolulu 96817.

TI Acute nonlymphocytic leukemia and residential exposure to power frequency magnetic fields.

SO Am-J-Epidemiol. 1988 Jul. 128(1). P 10-20.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Recent research has suggested that nonionizing *radiation* in the form of power-frequency magnetic fields may play some role in carcinogenesis in general and in acute nonlymphocytic leukemia in particular. Much of the epidemiologic evidence is preliminary in nature and the methods of previous studies have been criticized. In order to further evaluate this hypothesis, a population-based case-control study of adult acute nonlymphocytic leukemia and residential exposure to power-frequency magnetic fields was carried out in western Washington state. Analyses were based on 114 cases who were newly diagnosed from 1981 to 1984 and identified from a population-based cancer *registry,* and 133 controls who were chosen from the study area by random digit dialing. Magnetic field exposure was estimated from external electrical wiring configurations within 140 ft (42.7 m) of each subject's residence. In addition, magnetic fields were measured inside the subject's residence at the time of

interview. Neither the directly measured magnetic fields nor the surrogate values based on the wiring configurations were associated with acute nonlymphocytic leukemia. Author-abstract.

MJ ELECTROMAGNETIC-FIELDS: adverse-effects (ae). ELECTROMAGNETICS: adverse-effects (ae). LEUKEMIA: etiology (et).
MN ACUTE-DISEASE. ADULT. AGED. BEDDING-AND-LINENS. ELECTRIC-WIRING. ENVIRONMENTAL-EXPOSURE. FEMALE. HOUSING. HUMAN. INTERVIEWS. MALE. MIDDLE-AGE. RISK. SUPPORT-NON-U-S-GOVT. WASHINGTON.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0002-9262. 3H3.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880726.
CLASS UPDATE: 90.

172

AN 88250157. 88000.
AU Hanks-G-E.
IN Department of *Radiation* Oncology, Fox Chase Cancer Center, Philadelphia, PA 19111.
TI Quality control and assurance.
SO Am-J-Clin-Oncol. 1988 Jun. 11(3). P 411-4.
JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ MEDICAL-ONCOLOGY. QUALITY-ASSURANCE-HEALTH-CARE. RADIOLOGY: standards (st). RADIOTHERAPY: utilization (ut).
MN QUALITY-CONTROL. RADIOTHERAPY: trends (td). *REGISTRIES.* RESEARCH-DESIGN. UNITED-STATES.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0277-3732. 3EZ.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880718.

173

AN 88230503. 88000.
AU Olsson-H. Ranstam-J.
IN Department of Oncology, University Hospital, Lund, Sweden.
TI Head trauma and exposure to prolactin-elevating drugs as risk factors for male breast cancer.
SO J-Natl-Cancer-Inst. 1988 Jul 6. 80(9). P 679-83.
JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB On the basis of information obtained from a population-based cancer *registry* in Sweden, male patients with breast cancer (n = 95) were found to have experienced significantly more brain concussions and

skull fractures than male patients with lung cancer (n = 383) or malignant lymphoma (n = 69). Other risk factors significantly associated with breast cancer among men were drug treatment associated with prolactin elevations, *radiation* treatment, family history of breast cancer among first-degree relatives, a history of gynecomastia, gonadal injury, and treatment for inguinal hernias. The results confirm some previously described risk factors for male breast cancer and suggest that events elevating plasma prolactin (e.g., drugs, brain concussions, and skull fractures) and events predisposing for inguinal hernias may be new risk factors for the disease. Using hospital charts is likely to underestimate exposure for different risk factors; therefore, the results need to be confirmed in studies that directly retrieve information. However, such studies are difficult or impossible to undertake in most countries because the disease is so rare. Author-abstract.

MJ BREAST-NEOPLASMS: etiology (et). HEAD-INJURIES: complications (co). PROLACTIN: blood (bl).
MN ADULT. AGED. AGED-80-AND-OVER. ALCOHOLISM: complications (co). ANALYSIS-OF-VARIANCE. GYNECOMASTIA: complications (co). HUMAN. MALE. MIDDLE-AGE. *REGISTRIES.* RISK-FACTORS. SUPPORT-NON-U-S-GOVT. SWEDEN.
RN 9002-62-4 -- Prolactin.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0027-8874. J9J.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880713.

174

AN 88204244. 88000.
AU Colman-M. Easton-D-F. Horwich-A. Peckham-M-J.
IN Division of *Radiation* Oncology, University of California, Irvine 91717.
TI Second malignancies and Hodgkin's disease--the Royal Marsden Hospital experience `published erratum appears in Radiother Oncol 1988 Jul;12(3):251:.
SO Radiother-Oncol. 1988 Mar. 11(3). P 229-38.
JT RADIOTHERAPY AND ONCOLOGY.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-OF-REPORTED-CASES (RRC).
LG English (EN).
AB The frequency of secondary malignant neoplasms occurring in patients treated for Hodgkin's disease at the Royal Marsden Hospital between 1963 and 1978 is reported and the literature is reviewed. 730 patients were reviewed and 583 patients permanently resident in the United Kingdom were included in the analysis. The frequency of leukaemia and solid tumors was determined from age- and sex-corrected data from the South Thames Cancer *Registry.* Thirty-seven malignancies were recorded in 36 patients including 9 leukaemias, 10

lung cancers, 6 skin cancers and 2 non-Hodgkin's lymphoma, all of which were observed in significant excess. When all remaining sites are combined, there was a slight excess but no one site is individually significant. Author-abstract. 89 Refs.

MJ HODGKINS-DISEASE. NEOPLASMS-MULTIPLE-PRIMARY: etiology (et).
MN DRUG-THERAPY: adverse-effects (ae). FEMALE. HODGKINS-DISEASE: drug-therapy (dt),radiotherapy (rt). HUMAN.
LEUKEMIA-MYELOCYTIC-ACUTE: etiology (et). MALE. RADIOTHERAPY: adverse-effects (ae). RISK.
SB Priority Journals (M).
YR 1988.
IS 0167-8140. RAE.
CP NETHERLANDS (Z1.542.651).
IM 8808.
ND ENTRY DATE: 880609.
LAST REVISION DATE: 890222.
CLASS UPDATE: 90.

175

AN 88193408. 88000.
AU Meadows-A-T.
IN Children's Hospital of Philadelphia, PA 19104.
TI Risk factors for second malignant neoplasms: report from the Late Effects Study Group.
SO Bull-Cancer (Paris). 1988. 75(1). P 125-30.
JT BULLETIN DU CANCER.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The Late Effects Study Group (LESG) has collected 368 cases of second malignant neoplasms (SMN) in patients having been previously treated for a first malignancy during childhood. The most frequent first neoplasm is retinoblastoma, followed by Hodgkin's disease. The second neoplasms are essentially sarcomas mostly associated with *radiation* therapy. Leukemias are also frequent, apparently essentially induced by alkylating agents. The incidence of SMN depends on the primary and on the treatment given, thus it varies according to the studied cohorts. In the most recently analysed material of the LESG, the 20-year incidence was 8%. Children treated for a first neoplasm have an elevated risk of developing a SMN. Genetic predisposition may increase that risk. Author-abstract.
MJ NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).
MN ANTINEOPLASTIC-AGENTS: adverse-effects (ae). BONE-NEOPLASMS: etiology (et). CHILD. CHILD-PRESCHOOL. FOLLOW-UP-STUDIES. HODGKINS-DISEASE: drug-therapy (dt), radiotherapy (rt). HUMAN. *LEUKEMIA-RADIATION-INDUCED:* etiology (et).
NEOPLASMS-MULTIPLE-PRIMARY: etiology (et). RADIOTHERAPY: adverse-effects (ae). *REGISTRIES.* RETINOBLASTOMA: drug-therapy (dt), radiotherapy (rt). RISK-FACTORS. SARCOMA: etiology (et).
RN 0 -- Antineoplastic-Agents.
SB Priority Journals (M). Cancer Journals (X).

YR 1988.
IS 0007-4551. BDZ.
CP FRANCE (Z1.542.286).
IM 8808.
ND ENTRY DATE: 880602.
CLASS UPDATE: 91.

176

AN 88191799. 88000.
AU Ellerbroek-N-A. Tran-L-M. Selch-M-T. Taylor-J-M. Parker-R-G.
IN Department of *Radiation* Oncology, UCLA Center for the Health Sciences.
TI Testicular seminoma. A study of 103 cases treated at UCLA.
SO Am-J-Clin-Oncol. 1988 Apr. 11(2). P 93-9.
JT AMERICAN JOURNAL OF CLINICAL ONCOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The records of all patients treated at UCLA with stage I through stage III testicular seminoma, diagnosed in 1956-1983, were reviewed. Histologic subtype, therapeutic protocol, survival, and the incidence of subsequent primary malignancies are examined in this presentation. The 10 year cause-specific survival is 93% for stage I and 70% for stage II patients. Of the four patients initially seen with stage III disease, three have achieved long-term disease-free survival after combined irradiation and chemotherapy. Irradiation of the whole pelvis was not associated with improved control for those patients with previous pelvic surgery. Four patients complained of gynecomastia after therapy, and since none of these patients had elevated human chorionic gonadotropin levels, the gynecomastia was attributed to gonadal failure. Author-abstract.
MJ DYSGERMINOMA: therapy (th). TESTICULAR-NEOPLASMS: therapy (th).
MN ADULT. AGED. COMBINED-MODALITY-THERAPY. CYCLOPHOSPHAMIDE: administration-and-dosage (ad). DACTINOMYCIN: administration-and-dosage (ad). DYSGERMINOMA: mortality (mo), radiotherapy (rt), secondary (sc). GONADOTROPINS-CHORIONIC: blood (bl). HUMAN. MALE. MEDICAL-RECORDS. MIDDLE-AGE. ORCHIECTOMY. PROGNOSIS. *REGISTRIES.* RETROSPECTIVE-STUDIES. TESTICULAR-NEOPLASMS: mortality (mo), radiotherapy (rt). VINCRISTINE: administration-and-dosage (ad).
RN 0 -- Gonadotropins-Chorionic.
0 -- VAC-protocol.
50-18-0 -- Cyclophosphamide.
50-76-0 -- Dactinomycin.
57-22-7 -- Vincristine.
SB Priority Journals (M). Cancer Journals (X).
YR 1988.
IS 0277-3732. 3EZ.
CP UNITED-STATES (Z1.107.567.875).
IM 8807.
ND ENTRY DATE: 880520.

CLASS UPDATE: 91.

177

AN 88180943. 88000.

AU Ron-E. Modan-B. Boice-J-D Jr.

IN Dept. of Clinical Epidemiology, Chaim Sheba Medical Center, Tel Hashomer, Israel.

TI Mortality after radiotherapy for ringworm of the scalp.

SO Am-J-Epidemiol. 1988 Apr. 127(4). P 713-25.

JT AMERICAN JOURNAL OF EPIDEMIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The mortality experience of 10,834 children treated with x-rays for ringworm of the scalp between 1948 and 1960, 10,834 matched comparison subjects, and 5,392 siblings was evaluated over an average follow-up period of 26 years. Mortality was ascertained by linking unique personal identification numbers of study subjects with the national death *registry.* Radiotherapy in childhood was associated with an increased risk of death due to tumors of the head and neck (relative risk (RR) = 3) and leukemia (RR = 2.3). No other causes of death were significantly elevated after irradiation. The excess of brain tumors (average intracranial dose = 150 rads) confirms that the central nervous system of the child is sensitive to the induction of cancers by *radiation.* The bone marrow dose averaged over the entire body was approximately 30 rad, and the estimated risk coefficient of 0.9 excess leukemias per million per year per rad is consistent with other studies of whole-body exposure. A significant excess of bone and soft tissue sarcomas (RR = 9) was also observed. The pattern of cancer risk over time was bimodal; an early peak due to excess leukemias occurred within a few years of exposure, whereas excesses of solid tumors were most apparent after about 15 years. Despite the excess of cancers among exposed persons, over 50% of the deaths in the entire study population were from external events, mainly accidents or events related to military service. An estimate of the total impact of radiogenic cancer after childhood irradiation will require additional years of observation since the population irradiated is just now entering the age ranges normally associated with high cancer risk. Author-abstract.

MJ BRAIN-NEOPLASMS: mortality (mo). CAUSE-OF-DEATH.

HEAD-AND-NECK-NEOPLASMS: mortality (mo). *LEUKEMIA-RADIATION-INDUCED:* mortality (mo). *NEOPLASMS-RADIATION-INDUCED:* mortality (mo).

TINEA-CAPITIS: radiotherapy (rt).

MN CHILD. FEMALE. FOLLOW-UP-STUDIES. HUMAN. ISRAEL. MALE.

RADIOTHERAPY-DOSAGE. RETROSPECTIVE-STUDIES. SUPPORT-U-S-GOVT-P-H-S.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0002-9262. 3H3.

CP UNITED-STATES (Z1.107.567.875).

IM 8807.

ND ENTRY DATE: 880505.

NO NO1CP01042.

178

AN 88173979. 88000.
AU Alexander-F-E. Cartwright-R-A. McKinney-P-A.
TI Childhood malignancies in West Hull `letter:.
SO Lancet. 1988 Apr 2. 1(8588). P 769.
JT LANCET.
PT LETTER (LET).
LG English (EN).
MJ NEOPLASMS: epidemiology (ep). *NEOPLASMS-RADIATION-INDUCED:*
epidemiology (ep).
MN ADOLESCENCE. CHILD. CHILD-PRESCHOOL. ENGLAND. FEMALE. HUMAN.
INFANT. MALE. *REGISTRIES.* SPACE-TIME-CLUSTERING. WALES.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1988.
IS 0023-7507. L0S.
CP ENGLAND (Z1.542.363.300).
IM 8807.
ND ENTRY DATE: 880502.
CLASS UPDATE: 91.

179

AN 88145718. 88000.
AU Marcial-V-A. Pajak-T-F. Kramer-S. Davis-L-W. Stetz-J.
Laramore-G-E. Jacobs-J-R. Al-Sarraf-M. Brady-L-W.
IN Cancer Center of the University of Puerto Rico, San Juan.
TI *Radiation* Therapy Oncology Group (RTOG) studies in head and neck
cancer.
SO Semin-Oncol. 1988 Feb. 15(1). P 39-60.
JT SEMINARS IN ONCOLOGY.
PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART).
LG English (EN).
AB Since its foundation in 1971, the RTOG has conducted a successful
clinical research program in head and neck mucosal squamous cell
carcinoma with 22 treatment protocols and one *registry* study which
combined have accumulated data on over 5,500 patients. The RTOG was
the first multicenter group to evaluate neoadjuvant chemotherapy
before definitive *radiation* with its methotrexate study. Although
the study was negative, RTOG has since conducted five pilot or phase
II studies of neoadjuvant or concurrent chemotherapy with *radiation*
therapy in patients with inoperable tumors. The last study showed
that *radiation* concurrent with cisplatin was tolerable with a
suggestion of increased antitumor effect. In patients with
potentially resectable tumors, RTOG has completed a pilot study of
combination chemotherapy administered either before or after the
surgery with radiotherapy. Based upon its findings, the treatment
sequence, surgery-chemotherapy-radiotherapy, was chosen as the
experimental arm for a new phase III study. This study was

subsequently adopted by the head and neck intergroup mechanism as its study (INT 0034/RTOG 8503). RTOG has investigated the optimal timing of radiotherapy with surgery. The 7303 study established that postoperative radiotherapy achieved significantly better locoregional control but not improved absolute survival. Approximately 30% of the patients on each arm failed to complete both modalities. Even when comparison is restricted to patients who completed both modalities, postoperative radiotherapy still produced the better locoregional control. Efforts to overcome the limitations imposed by tumor hypoxia through use of carbogen (95% O₂ and 5% CO₂) breathing or the radiosensitizer misonidazole during radiotherapy have been unsuccessful. In a phase I study, RTOG showed that 15 to 18 sessions of sensitized *radiation* can be safely delivered with the new radiosensitizer SR 2508 in contrast to only six such sessions with misonidazole. This promising radiosensitizer is now being tested in a phase III trial. RTOG has also investigated variations in fraction size, fraction number, and total *radiation* dose. In the 7102 study, split-course irradiation achieved equivalent antitumor results as compared to continuous daily irradiation but with less social alteration and cost to the patient. In the hyperfraction pilot study 7703, twice a day irradiation with 120 cGys up to 6,000 cGys proved to be tolerable.(ABSTRACT TRUNCATED AT 400 WORDS). Author-abstract.

MJ ANTINEOPLASTIC-AGENTS: therapeutic-use (tu).

HEAD-AND-NECK-NEOPLASMS: radiotherapy (rt).

MN AGED. ANTINEOPLASTIC-AGENTS: adverse-effects (ae). CLINICAL-TRIALS.

COMBINED-MODALITY-THERAPY. FEMALE. HEAD-AND-NECK-NEOPLASMS:

drug-therapy (dt). HUMAN. MALE. MIDDLE-AGE. PILOT-PROJECTS.

PROGNOSIS. RANDOM-ALLOCATION. *REGISTRIES.* SUPPORT-U-S-GOVT-P-H-S.

RN 0 -- Antineoplastic-Agents.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0093-7754. UN5.

CP UNITED-STATES (Z1.107.567.875).

IM 8806.

ND ENTRY DATE: 880407.

CLASS UPDATE: 91.

NO CA12252. CA12258. CA12260.

180

AN 88138915. 88000.

AU Diamond-J-J. Hanks-G-E. Kramer-S.

IN American College of Radiology, Philadelphia, PA 19107.

TI The structure of *radiation* oncology practices in the continental United States.

SO Int-J-Radiat-Oncol-Biol-Phys. 1988 Mar. 14(3). P 547-8.

JT INTERNATIONAL JOURNAL OF *RADIATION* ONCOLOGY, BIOLOGY, PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The American College of Radiology periodically collects data on *radiation* oncology facilities with megavoltage equipment. The

results of the 1986 survey are summarized, with specific reference to the substantial growth in free-standing facilities.

Author-abstract.

MJ CANCER-CARE-FACILITIES: trends (td). HOSPITALS-SPECIAL: trends (td).
NEOPLASMS: radiotherapy (rt). *REGISTRIES.*

MN CANCER-CARE-FACILITIES: manpower (ma). HUMAN. UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0360-3016. G97.

CP UNITED-STATES (Z1.107.567.875).

IM 8806.

ND ENTRY DATE: 880329.

CLASS UPDATE: 90.

181

AN 88114600. 88000.

AU Sont-W-N. Ashmore-J-P.

IN Department of National Health and Welfare, Bureau of *Radiation* and
Medical Devices, Ottawa, Ontario, Canada.

TI 1984 annual *radiation* doses in Canada: lognormal and hybrid lognormal
analysis using maximum likelihood estimation.

SO Health-Phys. 1988 Feb. 54(2). P 211-9.

JT HEALTH PHYSICS.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ OCCUPATIONAL-MEDICINE. *RADIATION-DOSAGE.*

MN CANADA. COMPUTER-SIMULATION. HUMAN. MODELS-THEORETICAL.
REGISTRIES.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0017-9078. G2H.

CP UNITED-STATES (Z1.107.567.875).

IM 8805.

ND ENTRY DATE: 880304.

182

AN 88114152. 88000.

AU Schwartz-S-M. Weiss-N-S.

IN Division of Public Health Sciences, Fred Hutchinson Cancer Research
Center, Seattle, WA 98104.

TI Place of birth and incidence of ocular melanoma in the United States
`published erratum appears in Int J Cancer 1988 May 15;41(5):779:.

SO Int-J-Cancer. 1988 Feb 15. 41(2). P 174-7.

JT INTERNATIONAL JOURNAL OF CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB To examine whether or not being born in the southern United States is
associated with an increased risk of ocular melanoma, the
distribution of State of birth of 763 patients (White, not of Spanish
origin) with ocular melanoma diagnosed between 1973 and 1984 and

identified by 9 population-based cancer *registries* participating in the Surveillance, Epidemiology, and End Results program, was compared to the distribution of State of birth of the underlying population of the regions served by these *registries.* The incidence of ocular melanoma among persons born in the southern United States was nearly the same as that among persons born in the north, after adjustment for age, sex, and residence at diagnosis (Incidence Ratio = 1.1, 95% C.I. 0.8, 1.5). Comparisons of the risk of ocular melanoma between persons born in States with high and low levels of solar *radiation* yielded similar results, and a trend with increasing solar *radiation* was observed only among females. These findings do not support the hypothesis that exposure to the sun early in life is a major risk factor for ocular melanoma. Author-abstract.

MJ EYE-NEOPLASMS: epidemiology (ep). MELANOMA: epidemiology (ep).

MN CAUCASOID-RACE. EYE-NEOPLASMS: etiology (et). FEMALE. GEOGRAPHY. HUMAN. MALE. MELANOMA: etiology (et). *REGISTRIES.* RISK. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).

YR 1988.

IS 0020-7136. GQU.

CP UNITED-STATES (Z1.107.567.875).

IM 8805.

ND ENTRY DATE: 880316.

LAST REVISION DATE: 890112.

CLASS UPDATE: 88.

183

AN 88109257. 88000.

AU Storm-H-H.

IN Danish Cancer *Registry,* Institute of Cancer Epidemiology, Copenhagen, Denmark.

TI Second primary cancer after treatment for cervical cancer. Late effects after radiotherapy.

SO Cancer. 1988 Feb 15. 61(4). P 679-88.

JT CANCER.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Using data from the population-based Danish Cancer *Registry,* the relative risk (RR) of second primary cancer was assessed among 24,970 women with invasive cervical cancer (1943-1982) and 19,470 women with carcinoma in situ of the cervix. The analysis was stratified according to treatment with (+) and without (-) *radiation.* For all second primaries combined, a $RR+ = 1.1$ (95% confidence interval (CI) = 1.06-1.18) and a $RR- = 1.3$ (95% CI = 1.13-1.40) was observed after invasive cervical cancers and a $RR+ = 3.5$ (95% CI = 1.4-7.2) and $RR- = 1.1$ (95% CI = 0.7-1.6) following in situ cancer. The small overall excess of second primary cancer is accounted for by an increase of some cancers such as lung, bladder, and a concurrent decrease in others such as breast. Although not statistically different from nonirradiated, the RR increased with time since treatment among

irradiated invasive cervical cancer patients in organs close to and at intermediate distance from the cervix, reaching a maximum after 30 or more years of follow-up (RR = 1.9; 95% CI = 1.4-2.5). Altogether, for these sites an excess of 64 cases per 10,000 women per year were attributable to *radiation* among survivors of 30+ years. The highest risks among long-term survivors were observed for the following: other genital organs (RR = 5.8; 95% CI = 1.8-13.0) bladder (RR = 5.5; 95% CI = 2.8-9.5), connective tissue (RR = 3.3; 95% CI = 0.4-12.0), stomach (RR = 2.5; 95% CI = 1.1-4.7) and rectum (RR = 2.4; 95% CI = 1.1-4.6). A significant deficit of risk for breast cancer (RR = 0.7, 95% CI = 0.6-0.8) was observed for 10+ years, may be attributable to the effect of ovarian ablation by radiotherapy. It is speculated that the same effect also may explain the observed deficits of brain tumors (RR = 0.6; 95% CI = 0.4-1.0) and skin melanomas (RR = 0.6; 95% CI = 0.3-1.0). It is concluded that cancers attributable to *radiation,* apart from acute nonlymphocytic leukemias, tend to appear late (10 or more years after radiotherapy), and that the risk remains elevated for more than 30 years. Author-abstract.

MJ CARCINOMA-IN-SITU: radiotherapy (rt). CERVIX-NEOPLASMS: radiotherapy (rt). *LEUKEMIA-RADIATION-INDUCED:* etiology (et). *NEOPLASMS-RADIATION-INDUCED:* etiology (et). RADIOTHERAPY: adverse-effects (ae).
 MN DENMARK. FEMALE. HUMAN. *REGISTRIES.* RISK-FACTORS. SUPPORT-NON-U-S-GOVT.
 SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).
 YR 1988.
 IS 0008-543X. CLZ.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8805.
 ND ENTRY DATE: 880314.

184

AN 88107102. 88000.
 AU Hultborn-R. Friberg-S. Hultborn-K-A. Peterson-L-E. Ragnhult-I.
 IN Department of Oncology, University of Gothenburg, Sweden.
 TI Male breast carcinoma. II. A study of the total material reported to the Swedish Cancer *Registry* 1958-1967 with respect to treatment, prognostic factors and survival.
 SO Acta-Oncol. 1987. 26(5). P 327-41.
 JT ACTA ONCOLOGICA.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-OF-REPORTED-CASES (RRC).
 LG English (EN).
 AB The complete material of male breast cancer, 166 cases, reported to the Swedish Cancer *Registry* in 1958-1967 is described and analyzed concerning different prognostic parameters, treatment methods and survival. Age at diagnosis, axillary lymph node status and tumour size all had significant prognostic importance in a multivariate analysis with axillary lymph node status as the strongest factor.

Histologic malignancy grade was strongly correlated to axillary lymph node status and tumour size and thus to prognosis, but did not seem to be an independent prognostic factor. The primary treatment methods were quite heterogeneous and were obviously influenced by both age of the patient and clinical tumour status. No significant correlation was found between type of primary treatment and survival, but due to the retrospective nature of the study no definite conclusion could be drawn. Radical mastectomy seemed, however, to give fewer loco-regional recurrences than both modified radical mastectomy and simple mastectomy. Very few patients in the present series had received *radiation* therapy in adequate doses. The material gave some indications that orchiectomy might prolong survival in patients with recurrent or generalized disease.

Author-abstract. 72 Refs.

MJ BREAST-NEOPLASMS: therapy (th). CARCINOMA: therapy (th).

MN AGE-FACTORS. BREAST-NEOPLASMS: pathology (pa). CARCINOMA: pathology (pa). HUMAN. MALE. NEOPLASM-METASTASIS. PROGNOSIS. SWEDEN.

SB Cancer Journals (X). Priority Journals (M).

YR 1987.

IS 0284-186X. AON.

CP SWEDEN (Z1.542.808.843).

IM 8805.

ND ENTRY DATE: 880315.

LAST REVISION DATE: 920617.

CLASS UPDATE: 90.

185

AN 88091723. 88000.

AU Boice-J-D Jr. Blettner-M. Kleinerman-R-A. Stovall-M. Moloney-W-C. Engholm-G. Austin-D-F. Bosch-A. Cookfair-D-L. Krementz-E-T. et al.

IN *Radiation* Epidemiology Branch, National Cancer Institute, Bethesda, MD 20892.

TI *Radiation* dose and leukemia risk in patients treated for cancer of the cervix.

SO J-Natl-Cancer-Inst. 1987 Dec. 79(6). P 1295-311.

JT JOURNAL OF THE NATIONAL CANCER INSTITUTE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB To quantify the risk of *radiation-induced* leukemia and provide further information on the nature of the relationship between dose and response, a case-control study was undertaken in a cohort of over 150,000 women with invasive cancer of the uterine cervix. The cases either were reported to one of 17 population-based cancer *registries* or were treated in any of 16 oncologic clinics in Canada, Europe, and the United States. Four controls were individually matched to each of 195 cases of leukemia on the basis of age and calendar year when diagnosed with cervical cancer and survival time. Leukemia diagnoses were verified by one hematologist. *Radiation* dose to active bone marrow was estimated by medical physicists on the basis of the

original radiotherapy records of study subjects. The risk of chronic lymphocytic leukemia, one of the few malignancies without evidence for an association with ionizing *radiation,* was not increased`relative risk (RR) = 1.03; n = 52:. However, for all other forms of leukemia taken together (n = 143), a twofold risk was evident (RR = 2.0; 90% confidence interval = 1.0-4.2). Risk increased with increasing *radiation* dose until average doses of about 400 rad (4 Gy) were reached and then decreased at higher doses. This pattern is consistent with experimental data for which the down-turn in risk at high doses has been interpreted as due to killing of potentially leukemic cells. The dose-response information was modeled with various RR functions, accounting for the nonhomogeneous distribution of *radiation* dose during radiotherapy. The local *radiation* doses to each of 14 bone marrow compartments for each patient were incorporated in the models, and the corresponding risks were summed. A good fit to the observed data was obtained with a linear-exponential function, which included a positive linear induction term and a negative exponential term. The estimate of the excess RR per rad was 0.9%, and the estimated RR at 100 rad (1 Gy) was 1.7. The model proposed in this study of risk proportional to mass exposed and of risk to an individual given by the sum of incremental risks to anatomic sites appears to be applicable to a wide range of dose distributions. Furthermore, the pattern of leukemia incidence associated with different levels of *radiation* dose is consistent with a model postulating increasing risk with increasing exposure, modified at high doses by increased frequency of cell death, which reduces risk. Author-abstract.

MJ CERVIX-NEOPLASMS: radiotherapy (rt). *LEUKEMIA-RADIATION-INDUCED:* etiology (et). RADIOTHERAPY: adverse-effects (ae).

MN ADULT. AGE-FACTORS. AGED. BONE-MARROW: *radiation-effects* (re). BRACHYTHERAPY: adverse-effects (ae). EUROPE. FEMALE. HUMAN. MIDDLE-AGE. RADIOTHERAPY-DOSAGE. *REGISTRIES.* RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.

SB Priority Journals (M). Cancer Journals (X).
YR 1987.

IS 0027-8874. J9J.

CP UNITED-STATES (Z1.107.567.875).

IM 8804.

ND ENTRY DATE: 880217.

CLASS UPDATE: 88.

NO N01CP11017. N01CP01047. N01CP31035.

186

AN 88091450. 88000.

AU Murakami-R. Hiyama-T. Hanai-A. Fujimoto-I.

IN Department of Epidemiology and Mass Examination for Stomach Cancer, Center for Adult Diseases, Osaka, Japan.

TI Second primary cancers following female breast cancer in Osaka, Japan--a population-based cohort study.

SO Jpn-J-Clin-Oncol. 1987 Dec. 17(4). P 293-302.

JT JAPANESE JOURNAL OF CLINICAL ONCOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Using the data accumulated in the Osaka Cancer *Registry,* a cohort study was conducted on the occurrence of second primary cancers following the first breast cancer in females. Of the 9,503 breast cancer patients newly diagnosed in the period 1965-1982 who were followed up until the end of 1983 (average follow-up period, 5.7 years), 344 developed second cancers, whereas the expected number had been 211 (relative risk (RR) = 1.6; 95% confidence interval (CI) = 1.5-1.8). The increased risk was observed throughout the observation period, and was higher in patients of less than 45 years of age at diagnosis than in older women. Significant excess risks were found for second cancers of the opposite breast (RR = 4.2; 95% CI = 3.4-5.2), buccal cavity (RR = 3.6; 95% CI = 1.6-7.2), stomach (RR = 1.4; 95% CI = 1.2-1.8), colon (RR = 1.8; 95% CI = 1.1-2.1) and thyroid gland (RR = 3.2; 95% CI = 1.5-6.1). The effects of chemo- and radiotherapy administered for initial breast cancer on the increased risk of the above mentioned second cancers were also examined. These therapeutic measures were found not likely to be related to the excess risks for cancers of the buccal cavity, stomach and colon. For second cancer of the opposite breast, however, both chemotherapy and radiotherapy remained as possible risk factors. The effect of *radiation* was proposed as being a likely explanation for the excess risk of second thyroid cancer. Author-abstract.

MJ BREAST-NEOPLASMS: epidemiology (ep). NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep). URBAN-POPULATION.

MN AGE-FACTORS. BREAST-NEOPLASMS: drug-therapy (dt), radiotherapy (rt). COMPARATIVE-STUDY. FEMALE. HUMAN. JAPAN. MIDDLE-AGE. NEOPLASMS-MULTIPLE-PRIMARY: etiology (et). *REGISTRIES.* RISK-FACTORS. TIME-FACTORS.

SB Priority Journals (M). Cancer Journals (X).

YR 1987.

IS 0368-2811. KIN.

CP JAPAN (Z1.252.474.463).

IM 8804.

ND ENTRY DATE: 880203.

CLASS UPDATE: 90.

187

AN 88078867. 88000.

AU Lushbaugh-C-C. Fry-S-A. Ricks-R-C. Hubner-K-F. Burr-W-W.

TI Historical update of past and recent skin damage *radiation* accidents.

SO Br-J-Radiol-Suppl. 1986. 19. P 7-12.

JT BRITISH JOURNAL OF RADIOLOGY. SUPPLEMENT.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).

LG English (EN).

AB 25 Refs.

MJ ACCIDENTS. RADIODERMATITIS: etiology (et).

MN HUMAN. RADIODERMATITIS: therapy (th). *REGISTRIES.*

SUPPORT-U-S-GOVT-NON-P-H-S.

YR 1986.

IS 0007-1285. B30.

CP ENGLAND (Z1.542.363.300).

IM 8804.

ND ENTRY DATE: 880212.

CLASS UPDATE: 90.

188

AN 88078755. 88000.

AU Lushbaugh-C-C. Fry-S-A. Ricks-R-C.

IN *Radiation* Emergency Assistance Center/Training Site, Oak Ridge
Associated Universities, Tennessee.

TI Medical and radiobiological basis of *radiation* accident management.

SO Br-J-Radiol. 1987 Dec. 60(720). P 1159-63.

JT BRITISH JOURNAL OF RADIOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

MJ ACCIDENTS. NUCLEAR-REACTORS. *RADIATION-INJURIES:* epidemiology
(ep).

MN HUMAN. *RADIATION-DOSAGE.* *RADIATION-INJURIES:* mortality (mo).
REGISTRIES. SUPPORT-U-S-GOVT-NON-P-H-S. UKRAINE.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).

YR 1987.

IS 0007-1285. B28.

CP ENGLAND (Z1.542.363.300).

IM 8804.

ND ENTRY DATE: 880212.

CLASS UPDATE: 88.

189

AN 88008191. 88000.

AU Horn-P-L. Thompson-W-D. Schwartz-S-M.

IN Department of Epidemiology and Public Health, Yale University School
of Medicine, New Haven, CT 06510.

TI Factors associated with the risk of second primary breast cancer: an
analysis of data from the Connecticut Tumor *Registry.*

SO J-Chronic-Dis. 1987. 40(11). P 1003-11.

JT JOURNAL OF CHRONIC DISEASES.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB To examine further the epidemiology of contralateral primary breast
cancer, a case-control analysis, utilizing information available from
the Connecticut Tumor *Registry,* was conducted. Recent cases of
second primary breast cancer were compared to control women who had
survived a first breast cancer but had not developed a second. Three
hundred and thirty eight incident cases of contralateral breast
cancer diagnosed between 1979 and 1982 were identified and compared
with an equal number of randomly selected controls and 336 controls

frequency matched to the cases on the basis of age at initial cancer diagnosis and the calendar time elapsing since that diagnosis. Risk of second primary breast cancer was found to be significantly elevated among women whose initial cancer was lobular carcinoma and during the first year following diagnosis of the initial primary. Additionally, for women initially treated with radiotherapy, risk of a contralateral primary increased for 10-14 years following treatment, after which it declined. Among young women, having never married was protective whereas the opposite was found among older women. These findings and the methods used are discussed in the context of the epidemiology of both contralateral and initial breast primaries. Author-abstract.

MJ BREAST-NEOPLASMS: epidemiology (ep). CARCINOMA: epidemiology (ep).
NEOPLASMS-MULTIPLE-PRIMARY: epidemiology (ep).
MN ADULT. AGE-FACTORS. AGED. BREAST-NEOPLASMS: pathology (pa),
therapy (th). CARCINOMA: pathology (pa), therapy (th).
CARCINOMA-IN-SITU: etiology (et), pathology (pa), therapy (th).
COMPARATIVE-STUDY. CONNECTICUT. FEMALE. HUMAN. MARRIAGE.
MIDDLE-AGE. NEOPLASMS-MULTIPLE-PRIMARY: pathology (pa).
NEOPLASMS-RADIATION-INDUCED: epidemiology (ep). RADIOTHERAPY:
adverse-effects (ae). *REGISTRIES.* RISK-FACTORS. SAMPLING-STUDIES.
SUPPORT-U-S-GOVT-P-H-S. TIME-FACTORS.
SB Priority Journals (M).
YR 1987.
IS 0021-9681. HQV.
CP ENGLAND (Z1.542.363.300).
IM 8801.
ND ENTRY DATE: 871102.
CLASS UPDATE: 90.
NO CA39477. CA09279.
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SEARCH 7-->

Western standards of medicine. Centers who have pioneered sustained maternal-neonatal assistance to Russia include Oakland Children's Hospital, Children's Hospital of the King's Daughter in Norfolk, Virginia, and the University of Maryland working in St. Petersburg, Moscow, and Kazan, respectively. During the past two years, I have been medical advisor to a World Learning project whose goal is to improve the health of women and children in the Sverdlovsk Region, a highly industrial polluted region lying on the eastern slope of the Ural mountains. The project is further supported by the Humanitarian Services Agency of the LDS church which has sponsored an exchange program of physicians and nurses between Yekaterinburg and hospitals in Utah to teach and inspire young talent in Russia to establish new standards of care for pregnant women and their newborns. This is led by Ronald Stoddard at Utah Valley Regional Medical Center and Steve Clark, Professor of Maternal/Fetal Medicine at the University of Utah. Not all is bleak in Russia. There is a good triage system in place, although neonatal transport systems are primitive in most areas. There is universal health coverage, and over 95% of babies are delivered in hospitals, usually by physicians. A massive effort to teach appropriate methods of resuscitation throughout the Sverdlovsk Region has already certified over 300 neonatologists, obstetricians, and midwives in the NRP course, with a measurable improvement in neonatal mortality in just one year. The Russian Health Department has recently mandated a protocol for infant resuscitation based on the NRP guidelines, and neonatologists from the Regional Children's Hospital in Yekaterinburg are now offering the NRP course to health care workers in neighboring regions. A national perinatal association has been established and is assisting the health department in developing neonatal care standards. the Neonatal Intensive Care Handbook (Goetzman/Wennberg, eds.) has been translated and extensively edited by neonatologists in Yekaterinburg to reflect Russian realities. It will be printed and distributed throughout Russia this fall and may facilitate establishing greatly needed care standards. Unlike other developing countries, the network for training physicians and caring for patients provides an opportunity to effect rapid change if the leaders have the vision to do so.

For me, watching the evolution of pediatric visionaries in Russia has been most gratifying, not to mention the large network of personal friends. The frustrations have resulted from the lack of political or financial support to effect change in some regions and the lack of well focused funding by American agencies and foundations to address the need in a cost-effective manner. I have received many inquiries from groups in the U.S. who would like to become involved in this medical revolution, but the minimal financial support required to create effective programs has been difficult to secure. An additional concern is the lack of communication between American groups currently involved in the CIS. Shared experiences, translated teaching material, effective and ineffective strategies, and follow-up evaluations would help all to avoid traps and to develop priorities. I would welcome hearing from any group currently participating or wishing to participate in maternal-infant programs in the CIS. Changing standards of care will ultimately require coordination of CIS physicians themselves, but communication among Americans committed to help would greatly facilitate that goal. For those wishing to network their efforts, I may be reached on the Internet: rpwennberg@ucdavis.edu or by phone/fax (916) 756-1985.

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"TipText"="Enables MS-DOS-based programs to access CD-ROM drives."

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"Order"=hex:00,00,00,17

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"TipText"="Enables MS-DOS-based programs access to advanced graphics capabilities."

"Flags"=hex:00,00,00,00

"Order"=hex:00,00,00,18

"StdOption"=hex:40,00,00,00

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@="Desktop computer"

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\FS Templates\Mobile]

@="Mobile or docking system"

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"NameCache"=hex:10,00,00,00

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@="Network server"

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"NameCache"=hex:40,00,00,00

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"POINTER"="C:\\MSINPUT\\POINT32.EXE"

"Norton Auto-Protect"="C:\\PROGRA~1\\NORTONAN\\NAVAPW32.EXE /LOADQUIET"

"Norton Navigator Loader"="C:\\Program Files\\Norton Navigator\\nnloader.exe"

"QuickFinder Scheduler"="C:\\COREL\\OFFICE7\\SHARED\\QFINDER7\\QFSCHED.EXE"

"Dunce"="C:\\DUNCE\\DUNCE.EXE"

"NPROTECT"="C:\\PROGRA~1\\NORTONUT\\SYSTEM\\NuLaunch.exe"

C:\\PROGRA~1\\NORTONUT\\SYSTEM\\NPROTECT.EXE"

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"Times New Roman Italic (TrueType)"="TIMESI.TTF"

"Times New Roman Bold (TrueType)"="TIMESBD.TTF"

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Item: 1

UI 92142614
AU Bul'bulian MA
AU Tokareva GD
TI [Descriptive epidemiological study of malignant neoplasms in the
Semipalatinsk district of the Kazakh S.S.R.]
SO Vestn Akad Med Nauk SSSR 1991;(7):59-63
JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR
LA Rus For
AB The age-specific morbidity rates for all types of malignant tumors have
been shown to be higher among the residents in the **Semipalatinsk**
Region than in the general population of the Soviet Union, which is
primarily due to the incidence of esophageal cancer which in males and
females exceeds that in the general USSR's population. There is a
tendency to increasing morbidity due to lung, rectum, and breast
cancers. The morbidity due to malignant tumors of lymphatic and
hemopoietic tissues was lower in the **Semipalatinsk** Region in 1970
than that in Kazakhstan and in the USSR, but in 1985 it was similar to
that in the USSR and higher than in Kazakhstan. It is necessary to make
an epidemiological survey to detect the etiological factors responsible
for an increase in the morbidity due to tumors of this site in the area.
PT JOURNAL ARTICLE
MJ Medical Oncology /Statistics & Numerical Data
MJ Neoplasms /Epidemiology C4 C4.0
MI Adolescence
MI Adult
MI Age Factors
MI Aged
MI Child
MI Child Preschool
MI Comparative Study
MI English Abstract
MI Female
MI Human
MI Kazakhstan
MI Male
MI Middle Age
MI Registries /Statistics & Numerical Data
MI Sex Factors

Item: 2

UI 92142614
 AU Bul'bulian MA
 AU Tokareva GD
 TI [Descriptive epidemiological study of malignant neoplasms in the
 Semipalatinsk district of the Kazakh S.S.R.]
 SO Vestn Akad Med Nauk SSSR 1991;(7):59-63
 JT VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR
 LA Rus For
 AB The age-specific morbidity rates for all types of malignant tumors have
 been shown to be higher among the residents in the **Semipalatinsk**
 Region than in the general population of the Soviet Union, which is
 primarily due to the incidence of esophageal cancer which in males and
 females exceeds that in the general USSR's population. There is a
 tendency to increasing morbidity due to lung, rectum, and breast
 cancers. The morbidity due to malignant tumors of lymphatic and
 hemopoietic tissues was lower in the **Semipalatinsk** Region in 1970
 than that in Kazakhstan and in the USSR, but in 1985 it was similar to
 that in the USSR and higher than in Kazakhstan. It is necessary to make
 an epidemiological survey to detect the etiological factors responsible
 for an increase in the morbidity due to tumors of this site in the area.
 PT JOURNAL ARTICLE
 MJ Medical Oncology /Statistics & Numerical Data
 MJ Neoplasms /Epidemiology C4 C4.0
 MI Adolescence
 MI Adult
 MI Age 18 and under
 MI Age Factors
 MI Aged
 MI Child
 MI Child Preschool
 MI Comparative Study
 MI English Abstract
 MI Female
 MI Human
 MI Kazakhstan
 MI Male
 MI Middle Age
 MI Registries /Statistics & Numerical Data
 MI Sex Factors

Item: 3

UI 91094605
 AU Tsyb AF
 AU Stepanenko VF
 AU Pitkevich VA
 AU Ispenkov EA
 AU Sevan'kaev AV
 AU Orlov MIu
 AU Dmitriev EV
 AU Sarapul'tsev IA

AU Zhigareva TL
 AU Prokof'ev ON
 AU et al
 TI [Around the **Semipalatinsk** proving grounds: the radioecological situation and the population radiation doses in **Semipalatinsk** Province (based on data from the report of the Interdepartmental Commission)]
 SO Med Radiol (Mosk) 1990 Dec;35(12):3-11
 JT MEDITSINSKAIA RADIOLOGIIA
 LA Rus For
 AB The paper represents some results of a joint commission, organized by the USSR Ministry of Health by order of the USSR Council of Ministers at public requests. The commission worked in the area neighbouring the proving ground at **Semipalatinsk** in the period of May-July 1988. A radiological situation there was investigated after underground nuclear testing on July 8, 1989. The results of measurements and archive data were used to estimate doses of radiation exposure of the population in the period of 1949 (nuclear testing on the ground and in the atmosphere) and in the period of underground testing, It was shown that in the period of 1949-1963 approximately 10,000 people received increased doses of external and internal irradiation. A high level of radiation-induced chromosome aberrations was noted among them. The highest effective equivalent doses of external and internal irradiation were received by the residents in the villages of Folon' (1.6 Gy during the first testing in 1949), Karaul (0.37 Gy), Sarzhal (0.20 Gy), Semenovka (0.02 Gy). The annual effective equivalent doses at that period did not exceed 0.0056 Gy (the highest value) for the **Semipalatinsk** residents. Proceeding from the values of collective doses probable long-term effects (malignant tumors) were assessed. Recommendations and conclusions of the commission are presented.

PT JOURNAL ARTICLE
 MJ Environmental Exposure
 MJ Nuclear Warfare
 MJ Radioactive Fallout /Adverse Effects
 MI Comparative Study
 MI Ecology
 MI English Abstract
 MI Government Agencies
 MI Human
 MI Kazakhstan /Epidemiology
 MI Radiation Dosage
 MI Radiation Injuries /Epidemiology
 MI Radiation Injuries /Etiology
 MI Radioactive Fallout /Analysis
 MI Radioactive Pollutants /Analysis
 MI Radiochemistry
 MI Radiometry

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TD (TAILORED DISPLAY), SA (SHORT PLUS ABSTRACT)--> 1
ENTER DOCUMENT NUMBERS--> all

1

AN 93198361. 93063.

AU Teufel-N-I.

IN Department of Family and Community Medicine, University of Arizona,
Tucson 85719.

TI Diet and activity patterns of male and female co-workers: should
worksite *health* *promotion* programs assume homogeneity?

SO *Women-Health.* 1992. 19(4). P 31-54.

JT WOMEN AND *HEALTH.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB *Worksite* *health* *promotion* programs address the *health* education needs
of the average employee. Anthropometric measurements and 24h diet
and activity diaries collected from co-workers reveal that lifestyle
and subsequently, *health* education needs of men and women working for
the same employer, in the same environment and performing similar
tasks, may be different. In this study, males were marginally
overweight and obese; females were within recommended limits.
Although job related workloads were comparable, females were more
active (24hEE/FFM) outside the work place. Females spent more time
engaged in moderate weight-bearing domestic activities than did
males. These results question the effectiveness of *worksite* *health*
promotion program which ignore the different *health* education needs
of male and female employees. Author-abstract.

MJ *HEALTH-PROMOTION:* standards (st). LIFE-STYLE. OBESITY: therapy
(th). *OCCUPATIONAL-HEALTH-SERVICES:* standards (st).

MN ADULT. ANTHROPOMETRY. BODY-MASS-INDEX. COLORADO: epidemiology
(ep). EXERCISE. FEMALE. *HEALTH-SURVEYS.* HUMAN. MALE.
MIDDLE-AGE. NUTRITION-ASSESSMENT. NUTRITION-SURVEYS. OBESITY:
diagnosis (di), epidemiology (ep). SEASONS. SEX-FACTORS. WORKLOAD.

SB Priority Journals (M).

YR 1992.

IS 0363-0242. XOW.

CP UNITED-STATES (Z1.107.567.875).

IM 9306.

ND ENTRY DATE: 930412.

2

AN 93162034. 93053.

AU Marcus-B-H. Rossi-J-S. Selby-V-C. Niaura-R-S. Abrams-D-B.

IN Division of Behavioral Medicine, Miriam Hospital, Providence, RI.

TI The stages and processes of exercise adoption and maintenance in a
worksite sample.

SO *Health-Psychol.* 1992. 11(6). P 386-95.

JT *HEALTH* PSYCHOLOGY.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB We applied the model of the stages and processes of change to exercise adoption and maintenance. This model has shown promise in advancing theory and treatment of the addictions and other negative *health* behaviors, but there have been few systematic attempts to apply the model to positive *health* behaviors, such as exercise adoption. Questionnaires dealing with the stages and processes of exercise change were developed and administered to a sample of 1,172 participants in a *worksite* *health* *promotion* project. The sample was split randomly into halves for (a) initial model development and testing and (b) confirmatory measurement model testing. Additional model confirmation was obtained by examining the hierarchical structure of the processes of change and by conducting Stage x Process analyses. Results suggest that the underlying constructs derived from smoking cessation and other addictive behaviors can be generalized to exercise behavior. Understanding the stages and processes of exercise behavior change may yield important information for enhancing exercise adoption, adherence, and relapse prevention at both individual and public *health* levels. Author-abstract.

MJ *ATTITUDE-TO-HEALTH.* EXERCISE: psychology (px). *HEALTH-PROMOTION:* methods (mt). *OCCUPATIONAL-HEALTH-SERVICES.*

MN ADULT. FEMALE. *HEALTH-BEHAVIOR.* HUMAN. LIFE-STYLE. MALE. MODELS-PSYCHOLOGICAL. SUPPORT-U-S-GOVT-P-H-S.

SB Priority Journals (M).

YR 1992.

IS 0278-6133. EJL.

CP UNITED-STATES (Z1.107.567.875).

IM 9305.

ND ENTRY DATE: 930316.

NO S07RR05818. GRANT: RR. INSTITUTE: NCRR. CA27821. GRANT: CA. INSTITUTE: NCI. CA50087. GRANT: CA. INSTITUTE: NCI.

3

AN 93150337. 93051.

AU Witte-K.

IN Department of Speech Communication, Texas A&M University, College Station 77843-4234.

TI Managerial style and *health* *promotion* programs.

SO Soc-Sci-Med. 1993 Feb. 36(3). P 227-35.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Organizational correlates of *worksite* *health* *promotion* programs were isolated and interpreted within a diffusion of innovation framework. A sample of managers from California (U.S.A.) 500 organizations were interviewed via telephone on their corporate management styles and *health* care strategies. Organizational management style was found to be related to prevalence of *health* *promotion* programs and future plans for *health* *promotion* programs. Specifically, this study found that organizations with democratic management styles are more likely

to plan, adopt, and/or implement *worksite* *health* *promotion* programs when compared to organizations with authoritarian management styles. An additional contribution of this study was the development and validation of the Organizational Management Style (OMS) scale. These results have important theoretical and practical implications. For example, these findings explain why some organizations are more or less likely to adopt *health* *promotion* programs. Both diffusion of innovation and social control explanations are used to interpret the results. Author-abstract.

MJ *HEALTH-PROMOTION:* organization-and-administration (og).
OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
PERSONNEL-MANAGEMENT.
MN CALIFORNIA. HUMAN. REPRODUCIBILITY-OF-RESULTS.
SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1993.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 9305.
ND ENTRY DATE: 930302.

4

AN 93125457. 93042.
TI *Worksite* *health* *promotion--New* Hampshire, 1992.
SO MMWR-Morb-Mortal-Wkly-Rep. 1993 Jan 22. 42(2). P 28-9, 35-7.
JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Because a high proportion (85%) of the U.S. adult population is employed, the *worksite* setting offers immense potential for *health-promotion* efforts (1). Successful *worksite* *health-promotion* programs have targeted nutrition, cholesterol reduction, and cancer prevention (2-4). As part of an effort to strengthen such programs in New Hampshire, the Division of Public *Health* Services (DPHS), New Hampshire State Department of *Health* and Human Services, in collaboration with the University of New Hampshire and CDC, conducted a statewide survey of *worksites* from March through July 1992 to characterize employee *health* services. This report summarizes findings on the proportion of *worksites* that offered *health-promotion* activities. Author-abstract.
MJ *OCCUPATIONAL-HEALTH.*
MN HUMAN. NEW-HAMPSHIRE. *OCCUPATIONAL-HEALTH:*
statistics-and-numerical-data (sn).
SB Priority Journals (M).
YR 1993.
IS 0149-2195. NE8.
CP UNITED-STATES (Z1.107.567.875).
IM 9304.
ND ENTRY DATE: 930205.

5

AN 92409077. 92000.
AU Pokorski-T-L.
IN University of Florida, Department of *Health* Science Education,
Gainesville 32611-2034.
TI *Worksite* *health* *promotion:* rationale for military implementation.
SO Mil-Med. 1992 Aug. 157(8). P 426-30.
JT MILITARY MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB *Health* *promotion* programs are being offered in many segments of U.S.
society. Corporations find offering *health* *promotion* programs at the
worksite effective and cost-efficient. The U.S. military, following
a 1986 Department of Defense directive, has also developed *health*
promotion programs. At present, not all components of military
health *promotion* programs are being offered at the *worksite.*
Improved employee *health* and lower *health* care costs are objectives
sought by both the military and major corporations. Therefore, full
worksite implementation of all *health* *promotion* program components
will assist the military services in reaching their *health* goals.
Author-abstract.
MJ *HEALTH-PROMOTION.* MILITARY-PERSONNEL.
MN ADOLESCENCE. ADULT. COMPARATIVE-STUDY. FEMALE. *HEALTH-BEHAVIOR.*
HEALTH-PROMOTION: economics (ec). HUMAN. MALE.
ORGANIZATIONAL-OBJECTIVES: economics (ec). UNITED-STATES.
YR 1992.
IS 0026-4075. N1A.
CP UNITED-STATES (Z1.107.567.875).
IM 9212.
ND ENTRY DATE: 921022.

6

AN 92390748. 92000.
AU Erben-R. Franzkowiak-P. Wenzel-E.
TI Assessment of the outcomes of *health* intervention.
SO Soc-Sci-Med. 1992 Aug. 35(4). P 359-65.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB In this article we discuss basic assumptions of *health* interventions
with regard to their underlying concepts and selected strategies.
Particularly, the lifestyle model of *health* *promotion* is presented
and its consequences for *health* *promotion* and *health* interventions
are discussed. Reference is made to two fields of interventions:
prevention of cardiovascular diseases and *worksite* *health* *promotion.*
It is concluded that *health* interventions have to clarify their
concepts and strategies in detail before an evaluation of their
outcomes can be carried out reasonably. Author-abstract. 18 Refs.
MJ *HEALTH-BEHAVIOR.* *HEALTH-PROMOTION:* methods (mt). LIFE-STYLE.
OUTCOME-AND-PROCESS-ASSESSMENT-HEALTH-CARE: methods (mt).

MN HUMAN.
SB Priority Journals (M).
YR 1992.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 9212.
ND ENTRY DATE: 921008.

7

AN 92293747. 92000.
AU Chenoweth-D.
IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, N.C.
TI Controlling healthcare costs through a coalition cost-awareness
program.
SO *Occup-Health-Saf.* 1992 Apr. 61(4). P 42-7, 75, 80.
JT OCCUPATIONAL *HEALTH* AND SAFETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-BENEFIT-PLANS-EMPLOYEE:* economics (ec).
MN COST-CONTROL. COSTS-AND-COST-ANALYSIS.
SB Priority Journals (M).
YR 1992.
IS 0362-4064. ODE.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920716.

8

AN 92287570. 92000.
AU Fielding-J-E.
TI Quality in *worksite* *health* *promotion:* who is responsible?
`editorial:.
SO Am-J-Prev-Med. 1992 Mar-Apr. 8(2). P 128-9.
JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.
PT EDITORIAL (EDI).
LG English (EN).
MJ *HEALTH-PROMOTION:* standards (st). *OCCUPATIONAL-HEALTH-SERVICES:*
standards (st).
MN *HEALTH-PROMOTION:* organization-and-administration (og). HUMAN.
OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
PROGRAM-EVALUATION. *QUALITY-ASSURANCE-HEALTH-CARE.*
SB Priority Journals (M).
YR 1992.
IS 0749-3797. APL.
CP UNITED-STATES (Z1.107.567.875).
IM 9209.
ND ENTRY DATE: 920716.

9

AN 92287569. 92000.

AU Kizer-K-W. Folkers-L-F. Felten-P-G. Neimeyer-D.
 IN *Health* *Promotion* Section, California Department of *Health* Services,
 Sacramento.
 TI Quality assessment in *worksite* *health* *promotion*.*
 SO Am-J-Prev-Med. 1992 Mar-Apr. 8(2). P 123-7.
 JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB The rapid expansion of *worksite* *health* *promotion* programs and the
 proliferation of service providers have resulted in increased concern
 about the quality of such programs. And while employers may view
 health *promotion* programs as a service to be purchased, in general,
 quality standards, price, and outcomes are less well established for
 primary prevention programs than for other medical services. This
 trend creates substantial potential for inappropriate expenditures,
 undermining the general credibility of such programs. Recognizing
 the limits of epidemiologic data and the potential for misuse of
 health *promotion* activities in the workplace, the California
 Department of *Health* Services (CDHS) undertook the development of
 guidelines for employers' use in assessing the quality of the
 numerous employee *health* *promotion* or chronic disease risk reduction
 programs available to them. To make the use of such programs as
 productive as possible, the CDHS developed recommendations in two
 main areas: (1) general recommendations for six fundamental program
 planning and development activities that underlie sound *health*
 promotion programs, and (2) specific criteria for seven types of
 health *promotion* programs commonly implemented in work settings.
 Optimally, *worksite-based* *health* *promotion* programs should be part of
 a comprehensive effort that provides for appropriate medical
 oversight, referral, and follow-up procedures. These programs should
 be complemented by appropriate changes in the work environment and in
 organizational policies. Programs should also include strategies to
 assist employees in initiating healthier behaviors and maintaining
 the new behaviors once they are established. Preventive medicine and
 occupational medicine practitioners and medical directors should be
 familiar with the issues addressed by these recommendations.
 Author-abstract.
 MJ *HEALTH-PROMOTION:* standards (st). *OCCUPATIONAL-HEALTH-SERVICES:*
 standards (st).
 MN CALIFORNIA. *HEALTH-PROMOTION:* legislation-and-jurisprudence
 (lj),organization-and-administration (og). HUMAN.
 OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
 PROGRAM-DEVELOPMENT. PROGRAM-EVALUATION.
 QUALITY-ASSURANCE-HEALTH-CARE.
 SB Priority Journals (M).
 YR 1992.
 IS 0749-3797. APL.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9209.
 ND ENTRY DATE: 920716.

10

AN 92227506. 92000.
AU Weinberg-A-D. Iammarino-N-K. Laufman-L. Trost-R.
IN Institute for Preventive Medicine, Baylor College of Medicine,
Methodist Hospital, Houston, TX 77030.
TI Cholesterol screening using the school as a *worksite.*
SO *J-Sch-Health.* 1992 Feb. 62(2). P 45-9.
JT JOURNAL OF SCHOOL *HEALTH.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB This article illustrates the appropriateness of the school as a
worksite for *health* *promotion* programs and demonstrates how
cholesterol screening is an effective tool to introduce such a
program into a school system. Of 1,639 employees, 1,217 elected to
have their cholesterol measured (74% response rate). Forty-five
percent had elevated cholesterol according to the NIH Consensus
Panel. Of these, 12% were in the "high" category (greater than or
equal to 240 mg/dl) while 33% had levels that placed them in the
"borderline high" risk category (200-239 mg/dl). Cholesterol
screening can be incorporated easily into most school systems due to
the presence of nursing staff and *health* educators. Systematic
planning is essential for success and must include a counseling and
educational intervention coupled with an active referral and
follow-up program. This type of screening should be part of a
multicomponent *health* *promotion* program. Author-abstract.
MJ CHOLESTEROL: blood (bl). MASS-SCREENING: methods (mt). SCHOOLS.
MN ADOLESCENCE. ADULT. AGED. FEMALE. *HEALTH-PROMOTION.* HUMAN.
MALE. MIDDLE-AGE. SUPPORT-NON-U-S-GOVT. TEXAS.
RN 57-88-5 -- Cholesterol.
SB Priority Journals (M). Nursing Journals (N).
YR 1992.
IS 0022-4391. K13.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920521.

11

AN 92204582. 92000.
AU Chenoweth-D.
IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, N.C.
TI Soaring employee healthcare costs make *health* management critical.
SO *Occup-Health-Saf.* 1992 Jan. 61(1). P 36, 58.
JT OCCUPATIONAL *HEALTH* AND SAFETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-BENEFIT-PLANS-EMPLOYEE:* economics (ec).
MN COST-CONTROL. *HEALTH-EDUCATION.* *HEALTH-PROMOTION.*
INFLATION-ECONOMIC. UNITED-STATES.
SB Priority Journals (M).

YR 1992.
IS 0362-4064. ODE.
CP UNITED-STATES (Z1.107.567.875).
IM 9207.
ND ENTRY DATE: 920428.

12

AN 91317999. 91000.
AU Weisbrod-R-R. Pirie-P-L. Bracht-N-F. Elstun-P.
IN Division of Epidemiology, School of Public *Health,* University of
Minnesota, Minneapolis 55455.
TI *Worksite* *health* *promotion* in four Midwest cities.
SO *J-Community-Health.* 1991 Jun. 16(3). P 169-77.
JT JOURNAL OF COMMUNITY *HEALTH.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A survey of *worksite* *health* *promotion* activities in nine areas of
health was conducted in four Midwest cities--Winona and St. Cloud,
MN; Eau Claire, WI and Sioux Falls, SD to determine how many
worksites are involved in these activities; how many different kinds
of programs they offer; and whether or not *worksite* involvement is
growing in these areas of *health.* All *worksites* with over 100
employees were surveyed with a completion rate of 96% for eligible
worksites. Comparing program offerings at *worksites* with such
offerings by other community providers, we find *worksites* provide 40%
of the total of such programs to adults. They tend to operate most
programs independently of other community providers. Exercise and
smoking cessation programs are most commonly offered. *Worksites* in
the four communities significantly differed in the number of exercise
program options offered and in the prevalence of *worksite* involvement
in home, personal and drivers' safety programs. Compared to national
survey results, *worksites* in these Midwest cities show a lower level
of participation in heart disease and cancer screening activities.
There is a high rate of dropout among current providers of heart
disease screening activities and few nonproviders are initiating
programs. Program initiation among nonproviders is highest in
smoking cessation, weight loss and nutrition. Program growth among
current providers is high in the areas of chemical dependency,
exercise and personal, home and drivers' safety. Author-abstract.
MJ *HEALTH-PROMOTION:* standards (st). *OCCUPATIONAL-HEALTH-SERVICES:*
standards (st).
MN DATA-COLLECTION. *HEALTH-PROMOTION:* methods (mt),
statistics-and-numerical-data (sn).HUMAN.
MIDWESTERN-UNITED-STATES. *OCCUPATIONAL-HEALTH-SERVICES:*
statistics-and-numerical-data (sn). PROGRAM-EVALUATION.
QUESTIONNAIRES. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1991.
IS 0094-5145. HUT.
CP UNITED-STATES (Z1.107.567.875).

IM 9111.
ND ENTRY DATE: 910904.
NO HL25523. GRANT: HL. INSTITUTE: NHLBI.

13

AN 91270753. 91000.
AU Chenoweth-D.
IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, N.C.
TI Healthcare cost-control analysts need historical data on use of
funds.
SO *Occup-Health-Saf.* 1991 Apr. 60(4). P 32-3.
JT OCCUPATIONAL *HEALTH* AND SAFETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-BENEFIT-PLANS-EMPLOYEE:* organization-and-administration (og).
OCCUPATIONAL-HEALTH-SERVICES: economics (ec).
MN COST-CONTROL: methods (mt). INDUSTRY: economics (ec).
INFLATION-ECONOMIC. INSURANCE-CLAIM-REVIEW: economics (ec).
UNITED-STATES.
SB Priority Journals (M).
YR 1991.
IS 0362-4064. ODE.
CP UNITED-STATES (Z1.107.567.875).
IM 9109.
ND ENTRY DATE: 910725.

14

AN 91229163. 91000.
AU Stieg-P-R. Engelberg-M.
TI *Worksite* *health* *promotion* for state government employees `news:.
SO *Am-J-Public-Health.* 1991 Jun. 81(6). P 801-2.
JT AMERICAN JOURNAL OF PUBLIC *HEALTH*.
PT NEWS (NEW).
LG English (EN).
MJ *HEALTH-PROMOTION:* organization-and-administration (og).
OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
STATE-GOVERNMENT.
MN HUMAN. *OCCUPATIONAL-HEALTH-SERVICES:* economics (ec).
SOUTH-DAKOTA.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1991.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 9108.
ND ENTRY DATE: 910613.

15

AN 91229159. 91000.
AU Schechtman-K-B. Barzilai-B. Rost-K. Fisher-E-B Jr.
IN Division of Biostatistics, Washington University School of Medicine,

St. Louis, MO 63110.

TI Measuring physical activity with a single question.

SO *Am-J-Public-Health.* 1991 Jun. 81(6). P 771-3.

JT AMERICAN JOURNAL OF PUBLIC *HEALTH.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Using 1,004 subjects enrolled in a *worksite* *health* *promotion* program, this report evaluated the validity of a single question about participation in regular exercise. Measured at baseline, this one question had a significant age-adjusted association with body mass index (p less than 0.0001 in women and p = 0.001 in men), HDL cholesterol (p less than 0.0001 in women), and oxygen capacity (p = 0.0007 in women and p = 0.002 in men). Thus, one self-reported question can provide useful information about who is and who is not participating in regular exercise. The potential validity of a single exercise question is particularly relevant in complex epidemiologic studies where lengthy questionnaires highlight the importance of brief instruments. Author-abstract.

MJ BODY-MASS-INDEX. CARDIOVASCULAR-DISEASES: epidemiology (ep).

EXERCISE. LIPOPROTEINS-HDL-CHOLESTEROL: blood (bl).

OXYGEN-CONSUMPTION. QUESTIONNAIRES: standards (st).

MN ADULT. CARDIOVASCULAR-DISEASES: blood (bl), prevention-and-control (pc). EVALUATION-STUDIES. FEMALE. HUMAN. MALE. MIDDLE-AGE.

PREDICTIVE-VALUE-OF-TESTS. REPRODUCIBILITY-OF-RESULTS.

RISK-FACTORS.

RN 0 -- Lipoproteins-HDL-Cholesterol.

SB Abridged Index Medicus Journals (A). Priority Journals (M).

YR 1991.

IS 0090-0036. 3XW.

CP UNITED-STATES (Z1.107.567.875).

IM 9108.

ND ENTRY DATE: 910613.

CLASS UPDATE: 92.

16

AN 91128509. 91000.

AU Anderson-R-C. Anderson-K-E.

TI *Worksite* *health* *promotion.* The benefits of providing personal *health* status feedback and education programs to employees.

SO AAOHN-J. 1991 Feb. 39(2). P 57-61.

JT AAOHN JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Discovering ways to initiate and maintain *health* related behavior changes is a growing concern to business and industry. This research supports previous data indicating that wellness programs offered at the *worksite* are significantly beneficial in assisting employees to change behavior. This research did not find significant benefits to the employees who obtained *health* status information prior to participating in a *worksite* *health* program; however, the *health*

assessment tool was informative and may have been adequate to assist in behavior changing activities. Wellness programs are important factors for promoting *health* related behaviors; failure of this study to support the importance of assessment feedback does not negate the desirability of assessment as an important component of the corporate wellness program. Author-abstract.

MJ *HEALTH-EDUCATION.* *HEALTH-PROMOTION:* standards (st). *HEALTH-STATUS.*
OCCUPATIONAL-HEALTH-SERVICES: standards (st).
MN ADULT. *HEALTH-STATUS-INDICATORS.* HUMAN. MIDDLE-AGE.
PROGRAM-EVALUATION.
SB Nursing Journals (N).
LI N.
YR 1991.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 9105.
ND ENTRY DATE: 910315.

17

AN 91103769. 91000.
AU Conrad-K-M. Riedel-J-E. Gibbs-J-O.
TI Effect of *worksite* *health* *promotion* programs on employee absenteeism.
A comparative analysis.
SO AAOHN-J. 1990 Dec. 38(12). P 573-80.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Employee absenteeism is an important economic variable that needs to be examined by occupational *health* nurses when evaluating *worksite* *health* *promotion* programs. Two of the three Blue Cross and Blue Shield Plan studies suggested that their programs acted to contain absenteeism among program participants. The *worksite* programs that met with success tended to be comprehensive and to have strong management support. Strengths of the three studies included the use of comparison groups and pretest measures of absenteeism in the analyses. Limitations included selection bias, subject dropout over time, limited monitoring of the program process, and the use of an analysis method that did not consider the statistical characteristics of the absenteeism variable. Author-abstract.
MJ ABSENTEEISM. *HEALTH-PROMOTION:* standards (st).
OCCUPATIONAL-HEALTH-SERVICES: standards (st).
MN ADULT. COMPARATIVE-STUDY. FEMALE. *HEALTH-PROMOTION:*
organization-and-administration (og).HUMAN. INDIANA. MICHIGAN.
OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
OHIO. PROGRAM-EVALUATION. SUPPORT-NON-U-S-GOVT.
SB Nursing Journals (N).
LI N.
YR 1990.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).

IM 9105.
ND ENTRY DATE: 910228.

18

AN 91086070. 91000.
AU Rost-K. Connell-C. Schechtman-K. Barzilai-B. Fisher-E-B Jr.
IN Department of Psychiatry and Behavioral Sciences, University of
Arkansas for Medical Sciences, Little Rock 72205.
TI Predictors of employee involvement in a *worksite* *health* *promotion*
program.
SO *Health-Educ-Q.* 1990 Winter. 17(4). P 395-407.
JT *HEALTH* EDUCATION QUARTERLY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Although *worksite* *health* *promotion* programs have proliferated, little
is known about the population they reach. This study of employees of
a large utility company compared whether the same characteristics
which predict recruitment also predict extended participation. The
study also prospectively assessed how risk factors are related to
employees' on-going extended participation. The findings demonstrate
that sociodemographic predictors of recruitment are almost mirror
images of the predictors of extended participation. Over time
employees who are at higher risk for cardiovascular disease
participated in on-going sessions less frequently. Data suggest that
referral to targeted sessions does not result in higher rates of
attendance by employees with a particular risk factor, although there
is no evidence of selective avoidance. Organizational influences on
participation evident from the beginning are sustained through four
sessions. Programs targeting higher risk employees nested within
worksite-wide programs may be useful to increase the extended
participation of individuals at elevated risk for heart disease.
Author-abstract.
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES:* utilization (ut).
MN ADULT. CARDIOVASCULAR-DISEASES: prevention-and-control (pc).
CONSUMER-PARTICIPATION. FEMALE. *HEALTH-EDUCATION:* methods (mt).
HUMAN. MALE. MIDDLE-AGE. PRIMARY-PREVENTION. PROSPECTIVE-STUDIES.
RISK-FACTORS. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1990.
IS 0195-8402. G20.
CP UNITED-STATES (Z1.107.567.875).
IM 9104.
ND ENTRY DATE: 910207.
NO HL17646. GRANT: HL. INSTITUTE: NHLBI.

19

AN 91054707. 91000.
AU Marcocci-S.
TI Understanding why some employees ignore *worksite* *health* *promotion*
efforts. Refocusing the issue `published erratum appears in AAOHN J

1991 Feb;39(2):90:.

SO AAOHN-J. 1990 Nov. 38(11). P 531-5.

JT AAOHN JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB Corporations are beginning to examine exactly who is responding to *health* *promotion* programs offered at the *worksite.* Most findings indicate that those employees using most of the *health* care dollars are the least involved in *health* promoting efforts. When assessing why certain employees choose not to participate, application of a *health* *promotion* model will identify direct and indirect factors associated with this choice. Based on factors identified in the *health* *promotion* model, wellness programs are designed to fit the employees' level of readiness to adopt healthy behaviors. The three program levels build upon each other to achieve *health* *promotion.* The occupational *health* nurse has the skills necessary to identify this population which continues to live unhealthy lifestyles. The overall goal is to increase their participation in *health* *promotion.* This may be achieved by identifying their needs and designing programs accordingly. Author-abstract.

MJ *HEALTH-BEHAVIOR.* *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH.* TREATMENT-REFUSAL: psychology (px).

MN *ATTITUDE-TO-HEALTH.* *HEALTH-PROMOTION:* methods (mt). HUMAN. MOTIVATION.

SB Nursing Journals (N).

LI N.

YR 1990.

IS 0891-0162. AA0.

CP UNITED-STATES (Z1.107.567.875).

IM 9103.

ND ENTRY DATE: 910103.

LAST REVISION DATE: 910325.

20

AN 91048346. 91000.

AU Scofield-M.

IN AT&T, Basking Ridge, New Jersey.

TI Are we there yet? Anticipating the future of *worksite* *health* *promotion.*

SO Occup-Med. 1990 Oct-Dec. 5(4). P 863-75.

JT OCCUPATIONAL MEDICINE.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).

LG English (EN).

AB This chapter predicts future areas of concern for *worksite* *health* *promotion* programs. The shared responsibility of the employee and the organization in *health* *promotion* is stressed. The author also described the importance of recognizing the interrelationships among the personal domains of physical, emotional, mental, and spiritual *health.* Author-abstract. 36 Refs.

MJ *HEALTH-PROMOTION:* trends (td). *OCCUPATIONAL-HEALTH.*

MN FORECASTING. UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0885-114X. U9P.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901227.

21

AN 91048345. 91000.
AU Herbert-D-L. Herbert-W-G.
IN Cardiac and Intervention Center, Virginia Polytechnic Institute,
Blacksburg.
TI Legal issues in the delivery of *worksite* *health* *promotion.*
SO Occup-Med. 1990 Oct-Dec. 5(4). P 851-61.
JT OCCUPATIONAL MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
LG English (EN).
AB Employee *health* *promotion* programs typically involve one or more of
the following: (1) education programs, (2) cholesterol, blood
pressure, diabetes, or other similar screening programs, (3) smoking
cessation programs, (4) drug/alcohol testing and counseling programs,
(5) exercise facility or activity programs, and (6) recreational
activity programs. The authors examine potential legal implications
of these activities. This chapter is intended for those attempting
to define and establish these programs or to focus and operate them
without undue conflict or legal system involvement.
Author-abstract. 36 Refs.
MJ *HEALTH-PROMOTION:* legislation-and-jurisprudence (lj).
OCCUPATIONAL-HEALTH: legislation-and-jurisprudence (lj).
MN *HEALTH-EDUCATION:* legislation-and-jurisprudence (lj).
MASS-SCREENING:legislation-and-jurisprudence (lj). UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0885-114X. U9P.
CP UNITED-STATES (Z1.107.567.875).
IM 9102.
ND ENTRY DATE: 901227.

22

AN 91048344. 91000.
AU Katz-P-P. Showstack-J-A.
IN Institute for *Health* Policy Studies, University of California, San
Francisco 94143-0936.
TI Is it worth it? Evaluating the economic impact of *worksite* *health*
promotion.
SO Occup-Med. 1990 Oct-Dec. 5(4). P 837-50.
JT OCCUPATIONAL MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
LG English (EN).

AB In spite of the widely held belief that *worksite* *health* *promotion* programs lead to decreased *health* care costs, there has been little empirical evidence of this effect in the past. Because a primary reason for implementing these programs is the reduction of *health* care costs, this chapter focuses on research dealing with the economic impact of *worksite* programs. Guidelines for conducting evaluations are presented, and future trends in the organization and implementation of *worksite* *health* *promotion* programs are discussed. Author-abstract. 34 Refs.

MJ *HEALTH-PROMOTION:* economics (ec). *OCCUPATIONAL-HEALTH.*
 MN COST-BENEFIT-ANALYSIS. FORECASTING. *HEALTH-PROMOTION:* trends (td).
 PROGRAM-EVALUATION. UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0885-114X. U9P.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9102.
 ND ENTRY DATE: 901227.
 CLASS UPDATE: 91.

23

AN 91048340. 91000.
 AU Aguirre-Molina-M. Molina-C-W.
 IN Department of Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway 08854.
 TI Ethnic/racial populations and *worksite* *health* *promotion.*
 SO Occup-Med. 1990 Oct-Dec. 5(4). P 789-806.
 JT OCCUPATIONAL MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
 LG English (EN).
 AB This chapter describes the *health* characteristics and *health* risks of ethnic-racial populations and the implications for planning and delivering *health* *promotion* programs at the *worksite.* Special consideration is given to occupational stratification, which separates these groups from their white counterparts, thus requiring special attention. Guidelines are given for designing culturally appropriate *worksite* *health* *promotion* programs. Author-abstract. 49 Refs.

MJ BLACKS. *HEALTH-PROMOTION:* organization-and-administration (og).
 HISPANIC-AMERICANS. *OCCUPATIONAL-HEALTH.*
 MN FEMALE. *HEALTH-STATUS.* HUMAN. MALE. MORTALITY. RISK-FACTORS.
 UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0885-114X. U9P.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9102.
 ND ENTRY DATE: 901227.

24

AN 91048336. 91000.
 AU Cook-R-F. Youngblood-A.
 IN ISA Associates, Inc., Washington, D.C. 20006.
 TI Preventing substance abuse as an integral part of *worksite* *health*
 promotion.
 SO Occup-Med. 1990 Oct-Dec. 5(4). P 725-38.
 JT OCCUPATIONAL MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
 LG English (EN).
 AB Problems of substance abuse damage the well-being of many workers and
 drain substantial resources from the organization. While companies
 have adopted drug testing to screen out drug users and employee
 assistance programs to provide services to troubled workers, serious
 substance abuse prevention strategies have been virtually ignored.
 The authors describe some of the obstacles to implementing substance
 abuse programs. Attempts to integrate these programs into *worksite*
 health *promotion* are described and a model for a *health-oriented*
 substance abuse program is presented. Author-abstract. 33 Refs.
 MJ ALCOHOLISM: prevention-and-control (pc).
 HEALTH-PROMOTION:organization-and-administration (og).
 OCCUPATIONAL-HEALTH. SUBSTANCE-ABUSE: prevention-and-control (pc).
 MN HUMAN. UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0885-114X. U9P.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9102.
 ND ENTRY DATE: 901227.

25

AN 91048331. 91000.
 TI *Worksite* *health* *promotion*.
 SO Occup-Med. 1990 Oct-Dec. 5(4). P 653-875.
 JT OCCUPATIONAL MEDICINE.
 PT OVERALL (OVR).
 LG English (EN).
 MJ *HEALTH-PROMOTION.* OCCUPATIONAL-MEDICINE.
 MN HUMAN.
 SB Priority Journals (M).
 YR 1990.
 IS 0885-114X. U9P.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9102.
 ND ENTRY DATE: 901227.

26

AN 91048330. 91000.
 AU Jacobson-M-I. Yenny-S-L. Bisgard-J-C.
 IN Washington Business Group on *Health,* Washington, D.C. 20002.
 TI An organizational perspective on *worksite* *health* *promotion*.

SO Occup-Med. 1990 Oct-Dec. 5(4). P 653-64.
 JT OCCUPATIONAL MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-LITERATURE (RLT).
 LG English (EN).
 AB *Worksite* disease prevention and *health* *promotion* have developed into a field of endeavor that is accepted by a majority of employers in the United States and welcomed by many of their employees. This chapter examines the evolution of *worksite* *health* *promotion* and describes current *worksite* activities and their benefits. The authors also discuss several issues that must be addressed for the future. Author-abstract. 8 Refs.
 MJ *HEALTH-PROMOTION:* organization-and-administration (og).
 OCCUPATIONAL-HEALTH.
 MN PHYSICIANS-ROLE. UNITED-STATES.
 SB Priority Journals (M).
 YR 1990.
 IS 0885-114X. U9P.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9102.
 ND ENTRY DATE: 901227.

27

AN 90377860. 90000.
 AU Fielding-J-E.
 IN School of Public *Health,* University of California, Los Angeles 90024.
 TI *Worksite* *health* *promotion* survey: smoking control activities.
 SO Prev-Med. 1990 Jul. 19(4). P 402-13.
 JT PREVENTIVE MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB As part of the National *Worksite* *Health* *Promotion* Survey, a representative sample of *worksites* across the United States with 50 or more employees was asked about the presence and types of activities they sponsor to promote smoking control. Smoking control activities were reported at 35.6% (CI 32.6-38.6) of all *worksites.* Among *worksites* with any smoking control activity 76.5% (CI 71.7-81.3) had a formal policy restricting smoking, 54.3% (CI 48.7-59.9) provided information about the harmful effects of smoking, and 49.6% (CI 44.4-54.8) made self-help materials available. Individual counseling, group classes, workshops, follow-up support and reinforcement, or special events were available at 38.3% (CI 32.9-43.7) of *worksites* with any smoking control activities. Frequency increased as *worksite* size increased, with large frequency differences between the smallest and largest *worksites.* Smoking policies were most often put into effect to protect the *health* of nonsmokers (39.1%, CI 32.1-46.1) or to comply with regulations or laws (38.2%, CI 32.2-44.2). The most frequently reported benefit to the *worksite* of smoking control activities was improved employee *health* (35%, CI 26.2-43.8). Benefits were considered to outweigh the cost of activities at 36% (CI 29.6-42.4) of *worksites,* although 41.7%

(CI 34.7-48.7) said it was too soon to gauge the relative size of costs and benefits. Author-abstract.
 MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES:* standards (st).
 SMOKING: prevention-and-control (pc).
 MN ADULT. EVALUATION-STUDIES. FEMALE. *HEALTH-STATUS.*
 HEALTH-STATUS-INDICATORS. HUMAN. MALE.
 OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
 PATIENT-EDUCATION. PATIENT-PARTICIPATION. PUBLIC-POLICY.
 SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-NON-P-H-S.
 SB Priority Journals (M).
 YR 1990.
 IS 0091-7435. PM4.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9012.
 ND ENTRY DATE: 901016.

28

AN 90367551. 90000.
 AU O'Donnell-C-R. Rose-R-M.
 IN Division of Pulmonary and Critical Care Medicine, New England
 Deaconess Hospital, Boston 02215.
 TI The flow-ratio index. An approach for measuring the influence of age
 and cigarette smoking on maximum expiratory flow-volume curve
 configuration.
 SO Chest. 1990 Sep. 98(3). P 643-6.
 JT CHEST.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB A forced expiratory flow ratio, derived from the average slope of the
 maximum expiratory flow-volume (MEFV) curve over a specified volume
 interval, was examined in healthy asymptomatic cigarette smokers and
 nonsmokers. This index was developed to have the properties that it
 would be (1) simple to calculate, (2) less effort dependent than
 indices that incorporate peak flow, and (3) free of influence from
 the configurational detail and noise frequently occurring at higher
 lung volumes on MEFV curves. Forced expired vital capacity maneuvers
 were performed by participants in a *worksite* *health* *promotion*
 program. Data from asymptomatic individuals with normal pulmonary
 function were analyzed for 49 cigarette smokers and 52 nonsmokers; 25
 individuals had MEFV curves collected twice over a one-year interval.
 The ratio of flow derived from an average MEFV slope to instantaneous
 flow was calculated over the lower half of the vital capacity. Flow
 ratios were expressed as a percentage of the instantaneous flow at 75
 percent of the expired vital capacity (FR75). This ratio was
 reproducible from year 1 to year 2 ($r = 0.86$, p less than 0.0001).
 Furthermore, the FR75 was well correlated with age among cigarette
 smokers and nonsmokers ($r = 0.68$ and 0.63 respectively). The slope
 of the least squares regression equation relating FR75 to age was
 significantly greater among smokers than nonsmokers (2.90 percent per
 year vs. 1.73 percent per year, p less than 0.025). While there was

a significant interactive influence of age and total pack-years on the FR75 ($F = 2.91$, $p = 0.02$), this index did not differ systematically by gender. We conclude that the FR25 is a more sensitive index of altered lung function in cigarette smokers than are results of conventional pulmonary function. Author-abstract.

MJ AGING: physiology (ph). FORCED-EXPIRATORY-FLOW-RATES. MAXIMAL-EXPIRATORY-FLOW-VOLUME-CURVES. SMOKING: physiopathology (pp).

MN ADULT. FEMALE. HUMAN. MALE. RESPIRATORY-FUNCTION-TESTS: methods (mt). VITAL-CAPACITY.

SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0012-3692. D1C.

CP UNITED-STATES (Z1.107.567.875).

IM 9012.

ND ENTRY DATE: 901005.

CLASS UPDATE: 90.

29

AN 90350051. 90000.

AU Haynes-S-G. Odenkirchen-J. Heimendinger-J.

IN *Health* *Promotion* Sciences Branch, National Cancer Institute, Bethesda, MD 20892.

TI *Worksite* *health* *promotion* for cancer control.

SO Semin-Oncol. 1990 Aug. 17(4). P 463-84.

JT SEMINARS IN ONCOLOGY.

PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-MULTICASE (RMC).

LG English (EN).

AB 154 Refs.

MJ *HEALTH-PROMOTION.* NEOPLASMS: prevention-and-control (pc). OCCUPATIONAL-MEDICINE.

MN ADULT. FEMALE. *HEALTH-BEHAVIOR.* *HEALTH-EDUCATION.* HUMAN. MALE. MASS-SCREENING.

SB Priority Journals (M). Cancer Journals (X).

YR 1990.

IS 0093-7754. UN5.

CP UNITED-STATES (Z1.107.567.875).

IM 9011.

ND ENTRY DATE: 900914.

CLASS UPDATE: 90.

30

AN 90329086. 90000.

AU Davis-J-L.

TI Employee *health* newsletters. Analysis of characteristics.

SO AAOHN-J. 1990 Aug. 38(8). P 360-7.

JT AAOHN JOURNAL.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB 1. Although *health* newsletters are a frequent component of *worksite* *health* *promotion* programs, they vary considerably in distribution, format, and content. Such variety highlights the many options involved with this particular medium of *health* *promotion.* 2. The newsletters analyzed ranked highly in terms of attention catching potential and usefulness to employees. In addition, content strongly reflected an emphasis on prevention and healthy lifestyle habits. 3. Occupational *health* nurses must carefully consider advantages and disadvantages before deciding whether to use an outside vendor or produce the newsletter in-house, considering staff and time constraints in producing an effective newsletter. 4. The occupational *health* nurse is in a unique position to plan content and reinforce *health* messages that the newsletter presents, allowing for more effective interaction with the employees for whom the newsletters are designed. Author-abstract.

MJ *OCCUPATIONAL-HEALTH-NURSING.* PERIODICALS.

MN *HEALTH-PROMOTION.* HUMAN.

SB Nursing Journals (N).

LI N.

YR 1990.

IS 0891-0162. AA0.

CP UNITED-STATES (Z1.107.567.875).

IM 9011.

ND ENTRY DATE: 900906.

31

AN 90270975. 90000.

AU Blum-T-C. Roman-P-M. Patrick-L.

IN Georgia Institute of Technology, College of Management, Atlanta 30332.

TI Synergism in work site adoption of employee assistance programs and *health* *promotion* activities.

SO J-Occup-Med. 1990 May. 32(5). P 461-7.

JT JOURNAL OF OCCUPATIONAL MEDICINE.

PT CLINICAL-TRIAL (CTR). JOURNAL-ARTICLE (ART). MULTICENTER-STUDY (MUL).

LG English (EN).

AB As workplaces increasingly adopt proactive programs directed toward employee *health* issues, the interrelation between different programs becomes an important issue. Of interest here is the "synergy" in patterns of program adoption between employee assistance programs (EAPs) and *health* *promotion* activities (HPAs). We utilize the 1985 National Survey of *Worksite* *Health* *Promotion* Activities (N = 1358) for analyses of the dual presence of EAPs and HPAs, and in multivariate analyses we consider factors affecting such dual presence. The data suggest that synergy occurs, with EAP adoption appearing to influence HPA adoption to a greater extent than the reverse. In multivariate analyses, synergy is confirmed by the finding that, among a variety of relevant organizational characteristics, EAP presence and HPA presence are the best

predictors of each other's presence. The analyses also indicate that there is minimal commonality in program ingredients across organizations reporting the presence of HPAs. Implications of the data for the future development of these two programming strategies are discussed. Author-abstract.

MJ *HEALTH-PROMOTION:* methods (mt). *OCCUPATIONAL-HEALTH-SERVICES:* organization-and-administration (og).
MN COOPERATIVE-BEHAVIOR. HUMAN. INDUSTRY. MULTICENTER-STUDIES. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1990.
IS 0096-1736. JFR.
CP UNITED-STATES (Z1.107.567.875).
IM 9009.
ND ENTRY DATE: 900711.
CLASS UPDATE: 90.
NO R01AA07192. GRANT: AA. INSTITUTE: NIAAA. R01AA07218. GRANT: AA. INSTITUTE: NIAAA. R01AA07250. GRANT: AA. INSTITUTE: NIAAA.

32

AN 90245332. 90000.
AU Chenoweth-D.
IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, S.C.
TI Work-site *health* *promotion* programs need analysis of cost-effectiveness.
SO *Occup-Health-Saf.* 1990 Apr. 59(4). P 25, 95.
JT OCCUPATIONAL *HEALTH* AND SAFETY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PROMOTION:* economics (ec). OCCUPATIONAL-DISEASES: prevention-and-control (pc). *OCCUPATIONAL-HEALTH-SERVICES:* economics (ec).
MN ABSENTEEISM. COST-BENEFIT-ANALYSIS. HUMAN. HYPERTENSION: prevention-and-control (pc). PROSPECTIVE-STUDIES.
SB Priority Journals (M).
YR 1990.
IS 0362-4064. ODE.
CP UNITED-STATES (Z1.107.567.875).
IM 9008.
ND ENTRY DATE: 900613.
CLASS UPDATE: 91.

33

AN 90207160. 90000.
AU Breslow-L. Fielding-J. Herrman-A-A. Wilbur-C-S.
IN School of Public *Health,* University of California, Los Angeles.
TI *Worksite* *health* *promotion:* its evolution and the Johnson & Johnson experience.
SO Prev-Med. 1990 Jan. 19(1). P 13-21.
JT PREVENTIVE MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB *Worksite* *health* *promotion,* a rapidly growing form of preventive *health* service, may include *health* risk appraisal with communication of findings to the individuals tested. It may also assist in achieving and maintaining physical and mental fitness, controlling alcohol use, avoiding or quitting tobacco and other drugs, and otherwise maintaining *health* protective habits, while providing opportunities to control high blood pressure, and reduce elevated blood cholesterol, obesity, and other *health* hazards. This article presents a synopsis of the evolution of that movement and reviews the experience of one industrial firm that has endeavored to document and evaluate its effort. Such a review may be helpful in consolidating the various findings to date and in indicating the complexity of assessing the *health* and economic consequences of such an endeavor in private companies. Author-abstract.

MJ *HEALTH-PROMOTION:* organization-and-administration (og).

OCCUPATIONAL-HEALTH-SERVICES: standards (st). PROGRAM-EVALUATION.

MN *HEALTH-EDUCATION.* *HEALTH-SERVICES-NEEDS-AND-DEMAND.*

HEALTH-STATUS-INDICATORS. HUMAN. LIFE-STYLE. MASS-SCREENING.

OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
RISK-FACTORS.

SB Priority Journals (M).

YR 1990.

IS 0091-7435. PM4.

CP UNITED-STATES (Z1.107.567.875).

IM 9007.

ND ENTRY DATE: 900504.

CLASS UPDATE: 90.

34

AN 90202491. 90000.

AU Vass-M. Walsh-Allis-G-A.

IN College of *Health* and Human Services, Western Michigan University,
Kalamazoo 49008-5154.

TI Employee dependents: the future focus of *worksite* *health* *promotion* programs and the potential role of the allied *health* professional.

SO *J-Allied-Health.* 1990 Winter. 19(1). P 39-48.

JT JOURNAL OF ALLIED *HEALTH.*

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB The prevalence of *health* *promotion* activities has increased in *worksites* over the last five years. Many companies that have offered *health* *promotion* programs in the past have done so primarily for their employees. In the last several years, programs have extended to employee dependents by opening current employee programs to dependents. However, employee *health* *promotion* programs may not be relevant or accessible to employee dependents, particularly when children or elderly parents are taken into consideration. This paper outlines several reasons for expanding *health* *promotion* benefits to

include dependents, suggests a working construct for dependent programs, and discusses the possible roles of allied *health* professionals in these programs. Author-abstract.

MJ *ALLIED-HEALTH-PERSONNEL:* utilization (ut). FAMILY.
HEALTH-PROMOTION: methods (mt). *OCCUPATIONAL-HEALTH-SERVICES:* trends (td).
MN INDUSTRY. SUPPORT-NON-U-S-GOVT. UNITED-STATES.
SB Priority Journals (M).
YR 1990.
IS 0090-7421. HA8.
CP UNITED-STATES (Z1.107.567.875).
IM 9007.
ND ENTRY DATE: 900510.

35

AN 90202380. 90000.
AU Gottlieb-N-H. Nelson-A.
IN Department of Kinesiology and *Health* Education, University of Texas, Austin 78712.
TI A systematic effort to reduce smoking at the *worksite.*
SO *Health-Educ-Q.* 1990 Spring. 17(1). P 99-118.
JT *HEALTH* EDUCATION QUARTERLY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Smoking control is a key element of *worksite* *health* *promotion.* This three-stage study in a large state human services agency included a baseline survey, an assessment of the effects of competition on recruitment to a self-help cessation program, and examination of the outcome of the cessation program. In stage 1, scales for measuring smoking-related attitudes and the social environment were developed and used to study norms for smoking. Regression analysis was used to ascertain correlates of smokers' intentions to quit and to join a self-help program and non-smoker assertiveness. In stage 2, an evaluation using a quasi-experimental design indicated that competition was moderately effective in increasing the recruitment of all employees to the Great American Smoke-Out (70 vs. 17%) and of smokers to a self-help cessation program (28 vs. 6%). In stage 3, the self-reported quit rate at the end of the program was 28% and the biochemically-verified six months' cessation rate was 7%. Efforts are needed to strengthen, using ethical means, the norms for not smoking at the *worksite* and to increase both the recruitment to and the effectiveness of smoking cessation programs. Author-abstract.
MJ *ATTITUDE-TO-HEALTH.* *HEALTH-PROMOTION:*
organization-and-administration (og). *OCCUPATIONAL-HEALTH-SERVICES:*
organization-and-administration (og). SMOKING:
prevention-and-control (pc).
MN ADULT. FEMALE. HUMAN. MALE. PATIENT-PARTICIPATION. PREVALENCE.
SELF-CARE. SET-PSYCHOLOGY. SMOKING: epidemiology (ep), psychology (px). SOCIAL-ENVIRONMENT. SOCIAL-VALUES. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S. TEXAS: epidemiology (ep).

SB Priority Journals (M).
YR 1990.
IS 0195-8402. G20.
CP UNITED-STATES (Z1.107.567.875).
IM 9007.
ND ENTRY DATE: 900502.
NO K07CA01286. GRANT: CA. INSTITUTE: NCI.

36

AN 90170662. 90000.
AU Feldman-R-H.
TI *Worksite* *health* *promotion,* labor unions, and social support.
SO *Health-Educ.* 1989 Oct-Nov. 20(6). P 55-6.
JT *HEALTH* EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PROMOTION.* LABOR-UNIONS. *OCCUPATIONAL-HEALTH-SERVICES:*
trends (td). SOCIAL-ENVIRONMENT. SOCIAL-SUPPORT.
MN HUMAN. *OCCUPATIONAL-HEALTH-SERVICES:* standards (st).
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0097-0050. G26.
CP UNITED-STATES (Z1.107.567.875).
IM 9006.
ND ENTRY DATE: 900330.
CLASS UPDATE: 91.

37

AN 90170586. 90000.
AU Hyner-G-C. Dewey-J. Melby-C-L.
TI Relationship between employees' *health* risk appraisal scores and
their serum lipoproteins: results from a *worksite* *health* *promotion*
program.
SO *Health-Educ.* 1986 Jun-Jul. 17(3). P 32-3.
JT *HEALTH* EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CEREBROVASCULAR-DISORDERS: prevention-and-control (pc).
HEALTH-PROMOTION. *HEALTH-STATUS-INDICATORS.* LIPOPROTEINS: blood
(b1).
MN CHOLESTEROL: blood (b1). FEMALE. HUMAN. MALE.
OCCUPATIONAL-HEALTH-SERVICES. PERSONNEL-HOSPITAL. RISK-FACTORS.
UNITED-STATES.
RN 0 -- Lipoproteins.
57-88-5 -- Cholesterol.
SB Nursing Journals (N).
LI N.
YR 1986.
IS 0097-0050. G26.

CP UNITED-STATES (Z1.107.567.875).
IM 9006.
ND ENTRY DATE: 900406.
CLASS UPDATE: 91.

38

AN 90170540. 90000.
AU Basch-C-E. Zelasko-S. Burkholder-B.
TI An alternative approach for *worksite* *health* *promotion:* the consortium model.
SO *Health-Educ.* 1984 Dec-1985 Jan. 15(7). P 22-4.
JT *HEALTH* EDUCATION.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PROMOTION:* organization-and-administration (og).
MODELS-THEORETICAL. *OCCUPATIONAL-HEALTH-SERVICES:*
organization-and-administration (og).
MN HUMAN. NEW-YORK.
SB Nursing Journals (N).
LI N.
YR 1984.
IS 0097-0050. G26.
CP UNITED-STATES (Z1.107.567.875).
IM 9006.
ND ENTRY DATE: 900405.
CLASS UPDATE: 91.

39

AN 90153522. 90000.
AU Fielding-J-E.
TI The most important influences in *worksite* *health* *promotion:* conclusion of the panel discussion `interview by Moon S. Chen Jr.:.
SO *Health-Educ.* 1989 Dec. 20(7). P 51-2.
JT *HEALTH* EDUCATION.
PT INTERVIEW (INT).
LG English (EN).
MJ *ATTITUDE-TO-HEALTH.* *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES:* trends (td).
MN HUMAN. *OCCUPATIONAL-HEALTH-SERVICES:* economics (ec).
SB Nursing Journals (N).
LI N.
YR 1989.
IS 0097-0050. G26.
CP UNITED-STATES (Z1.107.567.875).
IM 9005.
ND ENTRY DATE: 900322.
CLASS UPDATE: 92.

40

AN 90088663. 90000.

AU Dalle-Molle-C. Allan-J.
 TI The need for a more holistic *health* care system.
 SO AAOHN-J. 1989 Dec. 37(12). P 518-25.
 JT AAOHN JOURNAL.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 AB As a result of the evolution of *health* problems in the United States, the current *health* care system must change its focus from the traditional biomedical model to a holistic *health* oriented model. The holistic *health* oriented system is based on the enhancement and maintenance of *health*,* not on the cure of disease. Given positive research findings concerning the *health* and cost benefits of *worksite* *health* *promotion* programs, it appears that industry, along with third party payers, nurses, and other *health* care professionals, could alter the emphasis and direction of *health* care. The *worksite* provides an ideal setting for the development of holistic programs. The occupational *health* nurse, whose role involves *health* *promotion*,* *health* protection, environmental screening, and illness intervention, is in the best position to work with management in developing *health* *promotion* programs. Author-abstract.
 MJ *DELIVERY-OF-HEALTH-CARE:* standards (st). *HOLISTIC-HEALTH.*
 OCCUPATIONAL-HEALTH-SERVICES: organization-and-administration (og).
 MN *DELIVERY-OF-HEALTH-CARE:* organization-and-administration (og), trends (td). *HEALTH-POLICY.* HUMAN. UNITED-STATES.
 SB Nursing Journals (N).
 LI N.
 YR 1989.
 IS 0891-0162. AA0.
 CP UNITED-STATES (Z1.107.567.875).
 IM 9004.
 ND ENTRY DATE: 900129.

41

AN 89366026. 89000.
 AU Chenoweth-D.
 IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, N.C.
 TI Businesses should share strategies for *health-care* cost management.
 SO *Occup-Health-Saf.* 1989 Jul. 58(7). P 17.
 JT OCCUPATIONAL *HEALTH* AND SAFETY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-BENEFIT-PLANS-EMPLOYEE:* economics (ec). *INSURANCE-HEALTH:*
 economics (ec). *OCCUPATIONAL-HEALTH-SERVICES:* economics (ec).
 MN COST-CONTROL. HUMAN. UNITED-STATES.
 SB Priority Journals (M).
 YR 1989.
 IS 0362-4064. ODE.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8912.
 ND ENTRY DATE: 890925.

CLASS UPDATE: 90.

42

AN 89277720. 89000.
AU Leviton-L-C.
IN Department of *Health* Services Administration, Graduate School of
Public *Health,* University of Pittsburgh, PA 15261.
TI Can organizations benefit from *worksite* *health* *promotion?*SO *Health-Serv-Res.* 1989 Jun. 24(2). P 159-89.
JT *HEALTH* SERVICES RESEARCH.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB A decision-analytic model was developed to project the future effects
of selected *worksite* *health* *promotion* activities on employees'
likelihood of chronic disease and injury and on employer costs due to
illness. The model employed a conservative set of assumptions and a
limited five-year time frame. Under these assumptions, hypertension
control and seat belt campaigns prevent a substantial amount of
illness, injury, and death. Sensitivity analysis indicates that
these two programs pay for themselves and under some conditions show
a modest savings to the employer. Under some conditions, smoking
cessation programs pay for themselves, preventing a modest amount of
illness and death. Cholesterol reduction by behavioral means does
not pay for itself under these assumptions. These findings imply
priorities in prevention for employer and employee alike.
Author-abstract. 56 Refs.
MJ *HEALTH-PROMOTION:* economics (ec). *OCCUPATIONAL-HEALTH-SERVICES:*
economics (ec).
MN COST-BENEFIT-ANALYSIS. DECISION-SUPPORT-TECHNIQUES.
SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1989.
IS 0017-9124. G2L.
CP UNITED-STATES (Z1.107.567.875).
IM 8909.
ND ENTRY DATE: 890725.
CLASS UPDATE: 91.

43

AN 89274017. 89000.
AU Fielding-J-E.
IN School of Public *Health,* University of California, Los Angeles.
TI Frequency of *health* risk assessment activities at U.S. *worksites.*
SO Am-J-Prev-Med. 1989 Mar-Apr. 5(2). P 73-81.
JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Data from the National Survey of *Worksite* *Health* *Promotion* Activities
include information about *health* risk assessment (HRA) activities
available at private sector *worksites* in the United States. HRA

activities were found at 29.5% of all *worksites.* Of those *worksites,* 24% provided HRA questionnaires and 77.4% provided periodic *health/physical* examinations. Screening tests provided as part of the *health/physical* exams included blood pressure screening (55.4%), cancer screening (19.5%), blood tests for cholesterol (28.3%) and sugar (39%), and tests of physical fitness (15.1%). In most cases, the frequency increased as *worksite* size increased, regional variations were small, and there was significant variation among different industry types. HRA activities were overrepresented at *worksites* where the majority of workers were women, over 30 years of age, not blue collar, and not represented by a union. On-site *health* personnel increased the likelihood of the presence of HRA activities. At 85% of the *worksites* with HRA activities all permanent employees were eligible. The full costs of screening were paid by 87.9% of the *worksites,* activities were held on company time at 74.5%, and time off to participate was available at 78.2% of *worksites.* The most commonly mentioned benefit of HRA activities was improved employee *health* (47.1%). Other *health* *promotion* activities frequently found in association with HRA activities were smoking cessation (54.1%), care and prevention of back pain (50.8%), and stress management (49.6%). Author-abstract.

MJ *HEALTH-PROMOTION.* *HEALTH-STATUS-INDICATORS.* *HEALTH-SURVEYS.*
 OCCUPATIONAL-HEALTH-SERVICES.
 MN AGED. COSTS-AND-COST-ANALYSIS. FEMALE. *HEALTH-PROMOTION:* economics (ec). HUMAN. MALE. MASS-SCREENING. MIDDLE-AGE.
 OCCUPATIONAL-HEALTH-SERVICES: economics (ec). PHYSICAL-EXAMINATION. QUESTIONNAIRES. RISK. SUPPORT-NON-U-S-GOVT.
 SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
 SB Priority Journals (M).
 YR 1989.
 IS 0749-3797. APL.
 CP UNITED-STATES (Z1.107.567.875).
 IM 8909.
 ND ENTRY DATE: 890727.
 CLASS UPDATE: 90.

44

AN 89112695. 89000.
 AU Chenoweth-D.
 IN *Worksite* *Health* *Promotion,* East Carolina University, Greenville, N.C.
 TI *Health* management personnel choice requires careful definition of needs.
 SO *Occup-Health-Saf.* 1988 Dec. 57(13). P 36-7.
 JT OCCUPATIONAL *HEALTH* AND SAFETY.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-PROMOTION:* trends (td). *OCCUPATIONAL-HEALTH-SERVICES:* trends (td). PHYSICAL-FITNESS.
 MN *HEALTH-SERVICES-NEEDS-AND-DEMAND:* trends (td). HUMAN.
 JOB-DESCRIPTION.

SB Priority Journals (M).
YR 1988.
IS 0362-4064. ODE.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890228.
CLASS UPDATE: 90.

45

AN 89107140. 89000.
AU Klesges-R-C. Brown-K. Pascale-R-W. Murphy-M. Williams-E.
Cigrang-J-A.
IN Department of Psychology, Memphis State University, TN 38152.
TI Factors associated with participation, attrition, and outcome in a
smoking cessation program at the workplace.
SO *Health-Psychol.* 1988. 7(6). P 575-89.
JT *HEALTH* PSYCHOLOGY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Despite their growing popularity, *worksite* *health-promotion* programs
have generally been characterized as having low participation rates,
high attrition rates, and modest outcomes. This investigation
identified the predictors of participation, attrition, and outcome of
worksite smoking-cessation program. Subjects were regular cigarette
smokers recruited from two *worksites.* Of 66 eligible smokers in the
two *worksites,* 44 (67%) agreed to participate in the program.
Fifty-five percent (24 of 44) of these completed the program. Of
those completing the program, 29% had quit smoking by posttest and
17% were abstinent at the 6-month follow-up. Results indicated that
a different set of variables predicted participation, attrition, and
outcome. The significant predictors of smokers who participated were
the length of cessation in previous abstinence attempts, the number
of years they smoked, and the belief regarding personal vulnerability
in contracting a smoking-related disease. Levels of pretest carbon
monoxide along with attitudes regarding the adoption of smoking
restrictions in the *worksite* predicted attrition. Posttest cessation
was related to nicotine levels of cigarette brand smoked at pretest
and pretest beliefs regarding postcessation weight gain. Abstinence
at the 6-month follow-up was predicted by the number of co-workers
who smoked and pretest concerns related to postcessation weight gain.
The results are discussed in terms of future evaluation and
intervention efforts. Author-abstract.
MJ *OCCUPATIONAL-HEALTH-SERVICES.* PATIENT-COMPLIANCE. SMOKING: therapy
(th).
MN ADULT. *ATTITUDE-TO-HEALTH.* BODY-WEIGHT. CARBON-MONOXIDE: analysis
(an). FEMALE. FOLLOW-UP-STUDIES. HUMAN. MALE. MIDDLE-AGE.
OCCUPATIONAL-HEALTH-SERVICES: utilization (ut).
PATIENT-ACCEPTANCE-OF-HEALTH-CARE. SUPPORT-NON-U-S-GOVT.
SUPPORT-U-S-GOVT-P-H-S.
RN 630-08-0 -- Carbon-Monoxide.

SB Priority Journals (M).
YR 1988.
IS 0278-6133. EJL.
CP UNITED-STATES (Z1.107.567.875).
IM 8905.
ND ENTRY DATE: 890306.
NO HL36553. HL39332.

46

AN 89076435. 89000.
AU Matteson-M-T. Ivancevich-J-M.
TI *Worksite* *health* *promotion:* some important questions.
SO AAOHN-J. 1988 Dec. 36(12). P 516-20.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN ETHICS-PROFESSIONAL. *HEALTH-EDUCATION.* HUMAN.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 8904.
ND ENTRY DATE: 890202.

47

AN 89074942. 89000.
AU Fielding-J-E. Piserchia-P-V.
IN Johnson & Johnson *Health* Management, Inc., Santa Monica, CA 90404.
TI Frequency of *worksite* *health* *promotion* activities.
SO *Am-J-Public-Health.* 1989 Jan. 79(1). P 16-20.
JT AMERICAN JOURNAL OF PUBLIC *HEALTH.*
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB The first National Survey of *Worksite* *Health* *Promotion* Activities surveyed a random sample of all private sector *worksites* with 50 or more employees, stratified by number of employers, geographic location, and type of industry. The 1,358 completed interviews constituted a response rate of 83.1 per cent. Of responding *worksites* 65.5 per cent had one or more areas of *health* *promotion* activity with slightly more than 50 per cent of activities initiated within the previous five years. Overall prevalence by type of activity included *health* risk assessment (29.5 per cent), smoking cessation (35.6 per cent), blood pressure control and treatment (16.5 per cent), exercise/fitness (22.1 per cent), weight control (14.7 per cent), nutrition education (16.8 per cent), stress management (26.6 per cent), back problem prevention and care (28.5 per cent), and off-the-job accident prevention (19.8 per cent). Mean number of activities across all *worksites* was 2.1 and for *worksites* with

activities, 3.2. Activity frequency increased with *worksite* size, was highest in the western region (2.34) and lowest in the northeast (1.96), and varied considerably by industry type. The majority of *worksites* paid the entire cost of these activities.

Author-abstract.

MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN *HEALTH-EDUCATION.* HUMAN. RANDOM-ALLOCATION. SAMPLING-STUDIES.
SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1989.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 8903.
ND ENTRY DATE: 890118.
CLASS UPDATE: 90.

48

AN 89074940. 89000.
AU Levenstein-C.
TI *Worksite* *health* *promotion* `editorial: `see comments:.
CM Comment in: Am J Public *Health* 1989 Nov;79(11):1570.
SO *Am-J-Public-Health.* 1989 Jan. 79(1). P 11.
JT AMERICAN JOURNAL OF PUBLIC *HEALTH.*
PT EDITORIAL (EDI).
LG English (EN).
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN HUMAN.
SB Abridged Index Medicus Journals (A). Priority Journals (M).
YR 1989.
IS 0090-0036. 3XW.
CP UNITED-STATES (Z1.107.567.875).
IM 8903.
ND ENTRY DATE: 890118.
LAST REVISION DATE: 900307.
CLASS UPDATE: 91.

49

AN 89053644. 89000.
AU Zavela-K-J. Davis-L-G. Cottrell-R-R. Smith-W-E.
IN Department of Medical Psychology, Oregon *Health* Sciences University,
Portland 97201.
TI Do only the healthy intend to participate in *worksite* *health*
*promotion?*SO *Health-Educ-Q.* 1988 Fall. 15(3). P 259-67.
JT *HEALTH* EDUCATION QUARTERLY.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB Few companies or organizations involved in *health* *promotion* have
addressed the major question of whether they are reaching the
employees with the greatest *health* needs or those who could benefit

most from these efforts. The popular view that only individuals who are already physically fit and healthy participate in *worksite* wellness programs was critically examined. Data from 523 survey respondents at the University of Oregon were analyzed to determine whether employees differed on *health-related* characteristics and their interest in attending a *worksite* *health* *promotion* program. Comparisons between program participant "intenders" and "nonintenders" revealed that both groups had similar lifestyle habits, preventive *health* practices, and *health* status profiles. Significant differences were more related to age and perceptions about their physical and emotional *health* status. Implications for *health* risk reduction program planning in the work setting are discussed. Author-abstract.

MJ CONSUMER-PARTICIPATION. *HEALTH-PROMOTION.*
OCCUPATIONAL-HEALTH-SERVICES: utilization (ut).
MN *ATTITUDE-TO-HEALTH.* FEMALE. *HEALTH-BEHAVIOR.*
HEALTH-STATUS-INDICATORS. HUMAN. MALE. MOTIVATION.
SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1988.
IS 0195-8402. G20.
CP UNITED-STATES (Z1.107.567.875).
IM 8903.
ND ENTRY DATE: 881227.
CLASS UPDATE: 90.
NO 5T32HL0733209.

50

AN 88253039. 88000.
AU OLoughlin-J. Boivin-J-F. Suissa-S.
TI A survey of *worksite* *health* *promotion* in Montreal.
SO *Can-J-Public-Health.* 1988 Mar-Apr. 79 Suppl 1. P 5-10.
JT CANADIAN JOURNAL OF PUBLIC *HEALTH.* REVUE CANADIENNE DE SANTE
PUBLIQUE.
PT JOURNAL-ARTICLE (ART).
LG English (EN). French (FR).
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES:*
organization-and-administration (og).
MN COMMERCE. COMPARATIVE-STUDY. COUNSELING. HUMAN. INDUSTRY.
POPULATION-SURVEILLANCE. QUEBEC. SMOKING: prevention-and-control
(pc). SPORTS. SUPPORT-NON-U-S-GOVT.
YR 1988.
IS 0008-4263. CK6.
CP CANADA (Z1.107.567.176).
IM 8810.
ND ENTRY DATE: 880809.

51

AN 88221742. 88000.
AU Chen-M-S Jr. Cabot-E-L.

TI Organizational resources for *worksite* *health* *promotion*.
SO AAOHN-J. 1988 Jun. 36(6). P 282-4.
JT AAOHN JOURNAL.
PT DIRECTORY (DIR).
LG English (EN).
MJ DIRECTORIES. *HEALTH-PROMOTION.* ORGANIZATIONS.
MN HUMAN. *OCCUPATIONAL-HEALTH-SERVICES.* UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880701.
CLASS UPDATE: 90.

52

AN 88221741. 88000.
AU Carpenter-R-A.
TI Heart at work. The evaluation of a low-cost *worksite* *health*
promotion program.
SO AAOHN-J. 1988 Jun. 36(6). P 276-81.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ CARDIOVASCULAR-DISEASES: prevention-and-control (pc).
OCCUPATIONAL-HEALTH-SERVICES.
MN AMERICAN-HEART-ASSOCIATION. HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1988.
IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880701.
CLASS UPDATE: 90.

53

AN 88221738. 88000.
AU Christenson-G-M. Kiefhaber-A.
TI The national survey of *worksite* *health* *promotion* activities.
SO AAOHN-J. 1988 Jun. 36(6). P 262-5.
JT AAOHN JOURNAL.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN *HEALTH-SURVEYS.* HUMAN. UNITED-STATES.
SB Nursing Journals (N).
LI N.
YR 1988.

IS 0891-0162. AA0.
CP UNITED-STATES (Z1.107.567.875).
IM 8809.
ND ENTRY DATE: 880701.

54

AN 88178184. 88000.
AU Walsh-D-C.
IN *Health* Policy Institute, Boston University, MA 02215.
TI Toward a sociology of *worksite* *health* *promotion:* a few reactions and reflections.
SO Soc-Sci-Med. 1988. 26(5). P 569-75.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
LG English (EN).
AB 20 Refs.
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN *HEALTH-BENEFIT-PLANS-EMPLOYEE:* economics (ec). *HEALTH-PROMOTION:* economics (ec), methods *(mt).HEALTH-STATUS-INDICATORS.* HUMAN. MOTIVATION. *OCCUPATIONAL-HEALTH-SERVICES:* economics (ec). RISK-FACTORS. SOCIAL-ENVIRONMENT. SOCIOLOGY. SUPPORT-NON-U-S-GOVT. SUPPORT-U-S-GOVT-P-H-S.
SB Priority Journals (M).
YR 1988.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 8807.
ND ENTRY DATE: 880510.
CLASS UPDATE: 90.

55

AN 88178181. 88000.
AU Conrad-P.
IN Department of Sociology, Brandeis University, Waltham, MA 02254.
TI *Health* and fitness at work: a participants' perspective.
SO Soc-Sci-Med. 1988. 26(5). P 545-50.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB In the 1980s *worksite* *health* *promotion* or wellness programs have become more common in American corporations. Corporations see them as a way to control rising *health* care costs and to improve employee *health.* This paper examines participants' perspectives on participation in a *health* and fitness program, based on participant-observation and 35 in-depth interviews with members of one corporate program. Participants have a decided fitness-orientation (as opposed to a *health-orientation),* focusing on staying in shape and controlling weight. The consequences of this orientation for the *promotion* of *health,* the future of wellness programs, and the corporation are discussed. Author-abstract.

MJ BODY-WEIGHT. *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
PHYSICAL-FITNESS.
MN ADULT. *ATTITUDE-TO-HEALTH.* EXERTION. FEMALE. HUMAN. MALE.
MIDDLE-AGE. NEW-ENGLAND. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1988.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 8807.
ND ENTRY DATE: 880510.

56

AN 88178180. 88000.
AU Zimmerman-R-S. Gerace-T-A. Smith-J-C. Benezra-J.
IN Department of Sociology, University of Miami, FL.
TI The effects of a *worksite* *health* *promotion* program on the wives of
fire fighters.
SO Soc-Sci-Med. 1988. 26(5). P 537-43.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB One method of increasing the cost-effectiveness of *worksite* *health*
promotion programs is to develop programs that also have an impact on
risk factors of family members and friends of the employees. In this
study, 41 wives of fire fighters were interviewed concerning changes
the fire fighters and they had made in their *health* habits--exercise,
weight, and consumption of fats, fruits/vegetables, and cereal/whole
grain breads--in the previous year. Thirty-two were wives of fire
fighters who had received a *worksite* *health* *promotion* program and
nine were wives of fire fighters who had not yet received the
program. Findings of our exploratory study strongly suggest that
wives of fire fighters who received information were more aware of
the program (93% vs 56%), had greater exposure to the written diet
plan (72% vs 11%) and guide to high fat foods (72% vs 0%) than
controls. Furthermore, the intervention led to changes in the fire
fighters' *health* habits that were reported by the wives. No
significant changes in the wives' *health* habits occurred as a result
of the intervention, although the changes were in the predicted
direction in every category; changes by the wives were, however,
related to changes by fire fighters. Involvement of the fire
fighters in the preparation of meals and sharing of information from
the intervention program by the participant with the wife, were
related to change in *health* habits of the wives.(ABSTRACT TRUNCATED
AT 250 WORDS). Author-abstract.
MJ FAMILY. *HEALTH-PROMOTION:* methods (mt).
OCCUPATIONAL-HEALTH-SERVICES.
MN ADULT. *ALLIED-HEALTH-PERSONNEL.* COMMUNICATION. DIET. FEMALE.
FLORIDA. HABITS. HUMAN. MALE. SUPPORT-NON-U-S-GOVT.
SB Priority Journals (M).
YR 1988.

IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 8807.
ND ENTRY DATE: 880510.

57

AN 88178179. 88000.
AU Spilman-M-A.
TI Gender differences in *worksite* *health* *promotion* activities.
SO Soc-Sci-Med. 1988. 26(5). P 525-35.
JT SOCIAL SCIENCE AND MEDICINE.
PT JOURNAL-ARTICLE (ART).
LG English (EN).
AB A model of intentional *health-related* behaviors was tested to predict men's and women's participation in six *worksite* *health* *promotion* programs. The model was best at predicting participation in programs that treat unhealthy conditions or behaviors. It was least successful at predicting participation in programs than can appeal to both those with *'health* risks' and to *health* 'maximizers'. Women had higher rates of participation than men in three of the four 'treatment' programs, and they participated in more programs. In every program type, the factors that influence women's participation were different from those affecting men; and women with children showed different patterns of influence from women without children. The patterns of influence are consistent with two sources for women's greater concern with treating poor *health:* their nurturant role responsibilities, and a particular emphasis by the medical profession on women and women's concerns. Author-abstract.
MJ *HEALTH-PROMOTION:* utilization (ut). *OCCUPATIONAL-HEALTH-SERVICES:* utilization (ut).
MN ADULT. *ATTITUDE-TO-HEALTH.* COMPARATIVE-STUDY. FEMALE.
HEALTH-STATUS. HUMAN. MALE. MODELS-PSYCHOLOGICAL. MOTHERS.
PILOT-PROJECTS. RANDOM-ALLOCATION. RISK-FACTORS. SEX-FACTORS.
SB Priority Journals (M).
YR 1988.
IS 0277-9536. UT9.
CP ENGLAND (Z1.542.363.300).
IM 8807.
ND ENTRY DATE: 880510.
CLASS UPDATE: 90.

58

AN 88178178. 88000.
AU Kronenfeld-J-J. Jackson-K-L. Davis-K-E. Blair-S-N.
IN School of Public *Health,* University of South Carolina, Department of *Health* Administration, Columbia 29208.
TI Changing *health* practices: the experience from a *worksite* *health* *promotion* project.
SO Soc-Sci-Med. 1988. 26(5). P 515-23.
JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB This paper uses data from an employee *health* *promotion* project for government employees to examine initial *health* practices and their relationship to social and demographic variables. It then uses data collected one year later to examine changes in *health* behaviors and to try to explain what types of people are most likely to undertake *health* behavior changes in a year, within the context of a *worksite* *health* *promotion* project. Most people in this sample of employees do make positive changes in *health* habits in at least one of the following areas: smoking, seatbelt usage, diet, exercise, alcohol usage. While a variety of different social and demographic variables are important in explaining initial differences in *health* practices, these same variables along with measures of personal efficacy and job stress are poor predictors of whether people change their *health* behavior over a year. Future research might usefully focus on more detailed collection of qualitative data to help understand what factors motivate people to change *health* behavior. Future survey approaches may then incorporate broader and more diverse categories of explanatory variables into regression models. Author-abstract.

MJ *HEALTH-PROMOTION:* methods (mt). *OCCUPATIONAL-HEALTH-SERVICES.*

MN ADOLESCENCE. ADULT. AGE-FACTORS. EDUCATIONAL-STATUS. FEMALE. FOLLOW-UP-STUDIES. GOVERNMENT-AGENCIES. HABITS. HUMAN. INCOME. MALE. MIDDLE-AGE. SEX-FACTORS. SOCIAL-BEHAVIOR. SOUTH-CAROLINA. SUPPORT-NON-U-S-GOVT.

SB Priority Journals (M).

YR 1988.

IS 0277-9536. UT9.

CP ENGLAND (Z1.542.363.300).

IM 8807.

ND ENTRY DATE: 880510.

59

AN 88178176. 88000.

AU Hollander-R-B. Lengermann-J-J.

IN Department of *Health* Education, University of Maryland, College Park 20742.

TI Corporate characteristics and *worksite* *health* *promotion* programs: survey findings from Fortune 500 companies.

SO Soc-Sci-Med. 1988. 26(5). P 491-501.

JT SOCIAL SCIENCE AND MEDICINE.

PT JOURNAL-ARTICLE (ART).

LG English (EN).

AB A study was carried out to assess the nature and extent of *worksite* *health* *promotion* programs in Fortune 500 companies. Growth and interest in *worksite* *health* *promotion* continues at a remarkable rate. Fortune 500 firms are a good barometer of the state of the art of programs in work settings because these companies have large numbers of employees, an interest in cost savings, and expertise to invest in innovative efforts. Data collection consisted of questionnaires sent

to the medical officer or Chief Executive Officer of all companies appearing on the 1984 Fortune 500 list. The following issues were addressed: whether companies offered *worksite* programs; what *health* *promotion* activities were provided in their programs; whether organizations had plans to start up or expand programs; what organizational support existed for programs (i.e. who pays, on whose time employees participate, when activities are offered, and what types of personnel are hired to staff programs); and whether these companies applied needs assessments, evaluation and cost analysis in their programs. Differences in these characteristics were examined in relation to the organizational variables of size (number of employees), Fortune 500 rank and type of industry (low-technology versus high-technology). The response rate for the survey was 49.4% (n = 247). Results of the study indicate a high level of *health* *promotion* activity in Fortune 500 firms. Out of the total group of respondents, two-thirds (n = 164) report having *worksite* programs and two-thirds of organizations with programs have plans to expand their *health* *promotion* offerings. One-third of responding organizations without programs planned to initiate them. The *health* *promotion* activities provided are numerous and varied, and within units that have programs rates of employee eligibility are reported to be high. However, the participation rates reported are appreciably lower. It is of special interest that, in general, the higher ranked, larger and high-technology companies are more likely to have programs; offer more activities in programs; have plans for program expansion; use a model of sharing costs of, and time to participate in program activities; make greater use of *health* professionals; and utilize more often needs assessment, evaluation and cost analysis techniques. The results of this study underscore the importance of examining a broad constellation of factors surrounding *worksite* programs. Given the organizational literature reviewed, it is likely that the characteristics of Fortune 500 programs documented here will serve as models for programs in midsize and smaller companies.

Author-abstract.

- MJ *HEALTH-PROMOTION:* organization-and-administration (og).
- *OCCUPATIONAL-HEALTH-SERVICES:* organization-and-administration (og).
- MN COST-BENEFIT-ANALYSIS. FEMALE. *HEALTH-PROMOTION:* methods (mt), trends (td). *HEALTH-SERVICES-NEEDS-AND-DEMAND.* HUMAN. MALE. *OCCUPATIONAL-HEALTH-SERVICES:* manpower (ma), trends (td). QUESTIONNAIRES. SOCIOECONOMIC-FACTORS. SUPPORT-NON-U-S-GOVT. UNITED-STATES.
- SB Priority Journals (M).
- YR 1988.
- IS 0277-9536. UT9.
- CP ENGLAND (Z1.542.363.300).
- IM 8807.
- ND ENTRY DATE: 880510.
- CLASS UPDATE: 91.

AN 88178175. 88000.
 AU Conrad-P.
 IN Department of Sociology, Brandeis University, Waltham, MA 02254.
 TI *Worksite* *health* *promotion:* the social context.
 SO Soc-Sci-Med. 1988. 26(5). P 485-9.
 JT SOCIAL SCIENCE AND MEDICINE.
 PT JOURNAL-ARTICLE (ART). REVIEW (REV). REVIEW-TUTORIAL (TUT).
 LG English (EN).
 AB 30 Refs.
 MJ *HEALTH-PROMOTION:* methods (mt). *OCCUPATIONAL-HEALTH-SERVICES.*
 MN ADULT. COST-CONTROL. *HEALTH-BENEFIT-PLANS-EMPLOYEE:* economics (ec).
 HEALTH-EDUCATION. *HEALTH-PROMOTION:* organization-and-administration
 (og). HUMAN. LIFE-STYLE. MIDDLE-AGE. MORALE.
 OCCUPATIONAL-HEALTH-SERVICES: economics (ec). PHYSICAL-FITNESS.
 SOCIAL-CONDITIONS. SUPPORT-U-S-GOVT-P-H-S. UNITED-STATES.
 SB Priority Journals (M).
 YR 1988.
 IS 0277-9536. UT9.
 CP ENGLAND (Z1.542.363.300).
 IM 8807.
 ND ENTRY DATE: 880510.
 CLASS UPDATE: 90.
 NO IF32MH033301.

61

AN 88178174. 88000.
 TI *Worksite* *health* *promotion.*
 SO Soc-Sci-Med. 1988. 26(5). P 485-575.
 JT SOCIAL SCIENCE AND MEDICINE.
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
 MN HUMAN.
 SB Priority Journals (M).
 YR 1988.
 IS 0277-9536. UT9.
 CP ENGLAND (Z1.542.363.300).
 IM 8807.
 ND ENTRY DATE: 880510.

62

AN 88156168. 88000.
 AU Blair-S-N. Tritsch-L. Kutsch-S.
 IN Institute for Aerobics Research, Dallas, TX 75230.
 TI *Worksite* *health* *promotion* for school faculty and staff.
 SO *J-Sch-Health.* 1987 Dec. 57(10). P 469-73.
 JT JOURNAL OF SCHOOL *HEALTH.*
 PT JOURNAL-ARTICLE (ART).
 LG English (EN).
 MJ *HEALTH-PROMOTION:* methods (mt). OCCUPATIONAL-DISEASES:

prevention-and-control (pc). *SCHOOL-HEALTH-SERVICES.* TEACHING.
MN *HEALTH-EDUCATION:* methods (mt). HUMAN. LIFE-STYLE. OREGON.
SB Priority Journals (M). Nursing Journals (N).
YR 1987.
IS 0022-4391. K13.
CP UNITED-STATES (Z1.107.567.875).
IM 8806.
ND ENTRY DATE: 880408.

63

AN 88036322. 88000.
AU Sciacca-J-P. Black-D-R. Seehafer-R-W.
TI *Worksite* *health* *promotion* and *health* care costs and utilization
`letter:.
SO JAMA. 1987 Nov 6. 258(17). P 2379.
JT JAMA.
PT LETTER (LET).
LG English (EN).
MJ *HEALTH-PROMOTION.* *OCCUPATIONAL-HEALTH-SERVICES.*
MN RESEARCH-DESIGN.
SB Abridged Index Medicus Journals (A). Priority Journals (M). Cancer
Journals (X).
YR 1987.
IS 0098-7484. KFR.
CP UNITED-STATES (Z1.107.567.875).
IM 8802.
ND ENTRY DATE: 871124.
CLASS UPDATE: 91.
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 AU Brownson-R-C. Alavanja-M-C.

Hock-E-T. Loy-T-S.

IN Division of Chronic Disease Prevention and *Health* *Promotion,* Missouri
 Department of *Health,* Columbia 65203.

TI Passive smoking and lung cancer in nonsmoking women.

SO *Am-J-Public-Health.* 1992 Nov. 82(11). P 1525-30.

JT AMERICAN JOURNAL OF PUBLIC *HEALTH.*

AB OBJECTIVES. The causes of lung cancer among nonsmokers are not clearly understood. To further evaluate the relation between passive smoke exposure and lung cancer in nonsmoking women, we conducted a population-based, case-control study. METHODS. Case patients (n = 618), identified through the Missouri Cancer Registry for the period 1986 through 1991, included 432 lifetime nonsmokers and 186 ex-smokers who had stopped at least 15 years before diagnosis or who had smoked for less than 1 pack-year. Control subjects (n = 1402) were selected from driver's license and Medicare files. RESULTS. No increased risk of lung cancer was associated with childhood passive smoke exposure. Adulthood analyses showed an increased lung cancer risk for lifetime nonsmokers with exposure of more than 40 pack-years from all household members (odds ratio `OR: = 1.3; 95% confidence interval `CI: = 1.0, 1.8) or from spouses only (OR = 1.3; 95% CI = 1.0, 1.7). When the time-weighted product of pack-years and average hours exposed per day was considered, a 30% excess risk was shown at the highest quartile of exposure among lifetime nonsmokers. CONCLUSIONS. Ours and other recent studies suggest a small but consistent increased risk of lung cancer from passive smoking. Comprehensive actions to limit smoking in public places and *worksites* are well-advised.

AU Briley-M-E. Montgomery-D-H. Blewett-J.

IN Department of Human Ecology at the University of Texas, Austin 78712.

TI *Worksite* nutrition education can lower total cholesterol levels and promote weight loss among police department employees.

SO J-Am-Diet-Assoc. 1992 Nov. 92(11). P 1382-4.

JT JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION.

AB Individuals who work in law enforcement careers are often subjected to stress that can result in *health* and emotional disorders. Many police departments have begun to offer wellness programs to support their employees. This pilot study designed and implemented a nutrition education component for an existing police department wellness program. Twenty-eight subjects completed the 12-month study that included nutrition counseling, seminars on nutrition and eating behaviors, and monitoring of weight and blood lipid levels. There was a significant group trend for decreased weight and lower total cholesterol levels. Results of the study led to the development of *health* policy standards for the Austin (Tex) Police Department.

Wellness programs that involve registered dietitians can result in weight loss and lower cholesterol levels for employees in high-stress occupations as well as changes in departmental policy.

AU Wong-M-L. Alsagoff-F. Koh-D.

IN Department of Community, Occupational and Family Medicine National University of Singapore.

TI *Health* *promotion*-a* further field to conquer.

SO Singapore-Med-J. 1992 Aug. 33(4). P 341-6.

JT SINGAPORE MEDICAL JOURNAL.

AB We examine some of the interpretations of *health* *promotion.* A brief review of the effectiveness of some *health* *promotion* programmes in the community and at the *worksite* in the United States is also presented in view of the similarity of its disease pattern with Singapore. We recommend the following strategies for the practice of *health* *promotion* in Singapore: formulation of clearly defined goals; intersectoral collaboration and community participation. Tanahill's model based on the overlapping spheres of *health* education, disease prevention and *health* protection is useful in identifying key groups and their roles in *health* *promotion.* Green's PROCEED-PRECEDE planning framework which identifies the various behavioural and environmental factors affecting *health* can help in deriving a highly focused subset of factors as targets for intervention. Research in *health* *promotion* should focus on compliance studies on healthy lifestyle regimens, and qualitative and quantitative evaluative studies on process and outcomes of different interventions.

AU Pokorski-T-L.

IN University of Florida, Department of *Health* Science Education, Gainesville 32611-2034.

TI *Worksite* *health* *promotion:* rationale for military implementation.

SO Mil-Med. 1992 Aug. 157(8). P 426-30.

JT MILITARY MEDICINE.

AB *Health* *promotion* programs are being offered in many segments of U.S. society. Corporations find offering *health* *promotion* programs at the *worksite* effective and cost-efficient. The U.S. military, following a 1986 Department of Defense directive, has also developed *health* *promotion* programs. At present, not all components of military *health* *promotion* programs are being offered at the *worksite.* Improved employee *health* and lower *health* care costs are objectives sought by both the military and major corporations. Therefore, full *worksite* implementation of all *health* *promotion* program components will assist the military services in reaching their *health* goals.

AU Lusk-S-L.

TI Selling *health* *promotion* programs: recommendations for occupational *health* nurses.

SO AAOHN-J. 1992 Sep. 40(9). P 414-8.

JT AAOHN JOURNAL.

AB 1. Although some suggest that *health* *promotion* programs should not

be conducted in the workplace, there is generally strong support for workplace programs by both the public and private sectors. 2. Many published reports of cost savings attributed to *health* *promotion* programs are available. The calculations of cost savings contain many flaws and generally do not reflect a comprehensive analysis of all costs associated with programs, especially those associated with changes in death rates and longevity. 3. Specific recommendations for occupational *health* nurses include: analysis of the corporate situation; integration of programs with occupational *health* and safety activities; involvement of all levels of workers in planning and promoting the programs; evaluation through employee participation and satisfaction, not by cost benefit analysis; and consideration of offering programs to family members. 4. Nursing as a whole should provide leadership for implementing programs to promote *health* and prevent disease. The *worksite* offers unique opportunities for occupational *health* nurses to implement the Healthy People 2000 objectives to enhance the *health* of working adults.

AU Erben-R. Franzkowiak-P. Wenzel-E.

TI Assessment of the outcomes of *health* intervention.

SO Soc-Sci-Med. 1992 Aug. 35(4). P 359-65.

JT SOCIAL SCIENCE AND MEDICINE.

AB In this article we discuss basic assumptions of *health* interventions with regard to their underlying concepts and selected strategies. Particularly, the lifestyle model of *health* *promotion* is presented and its consequences for *health* *promotion* and *health* interventions are discussed. Reference is made to two fields of interventions: prevention of cardiovascular diseases and *worksite* *health* *promotion*.* It is concluded that *health* interventions have to clarify their concepts and strategies in detail before an evaluation of their outcomes can be carried out reasonably.

AU Kizer-K-W. Folkers-L-F. Felten-P-G. Neimeyer-D.

IN *Health* *Promotion* Section, California Department of *Health* Services, Sacramento.

TI Quality assessment in *worksite* *health* *promotion*.*

SO Am-J-Prev-Med. 1992 Mar-Apr. 8(2). P 123-7.

JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.

AB The rapid expansion of *worksite* *health* *promotion* programs and the proliferation of service providers have resulted in increased concern about the quality of such programs. And while employers may view *health* *promotion* programs as a service to be purchased, in general, quality standards, price, and outcomes are less well established for primary prevention programs than for other medical services. This trend creates substantial potential for inappropriate expenditures, undermining the general credibility of such programs. Recognizing the limits of epidemiologic data and the potential for misuse of *health* *promotion* activities in the workplace, the California Department of *Health* Services (CDHS) undertook the development of guidelines for employers' use in assessing the quality of the

numerous employee *health* *promotion* or chronic disease risk reduction programs available to them. To make the use of such programs as productive as possible, the CDHS developed recommendations in two main areas: (1) general recommendations for six fundamental program planning and development activities that underlie sound *health* *promotion* programs, and (2) specific criteria for seven types of *health* *promotion* programs commonly implemented in work settings. Optimally, *worksite-based* *health* *promotion* programs should be part of a comprehensive effort that provides for appropriate medical oversight, referral, and follow-up procedures. These programs should be complemented by appropriate changes in the work environment and in organizational policies. Programs should also include strategies to assist employees in initiating healthier behaviors and maintaining the new behaviors once they are established. Preventive medicine and occupational medicine practitioners and medical directors should be familiar with the issues addressed by these recommendations.

AU Baier-C-A. Grodzin-C-J. Port-J-D. Leksas-L. Tancredi-D-J.
IN Department of Preventive Medicine, Rush-Presbyterian-St. Luke's
Medical Center, Chicago, Illinois 60612.

TI Coronary risk factor behavior change in hospital personnel following
a screening program.

SO Am-J-Prev-Med. 1992 Mar-Apr. 8(2). P 115-22.

JT AMERICAN JOURNAL OF PREVENTIVE MEDICINE.

AB We conducted a *worksite* cardiovascular disease (CVD) awareness and education program at a large medical center. The program consisted of employee screening for blood pressure and total serum cholesterol level, dissemination of information on risk factors for CVD, counseling on behavior change, and evaluation of the screening event as an educational tool. During this five-day event, 2,284 employees were screened for hypertension and hypercholesterolemia. Consenting employees completed a *health* risk appraisal survey (n = 2,255) and received counseling on their results and CVD risk factors. Appropriate referrals to *health* care professionals and educational programs were made according to national guidelines. We developed three-month and six-month follow-up surveys and distributed them to all participating employees. The analysis of these data suggests some positive impact upon behavior change within this employee population. In addition to the two follow-up surveys, we held a second blood pressure and serum cholesterol screening eight months after the initial screening. Comparison of the levels taken from both screenings (n = 234) suggests that *worksite* screening programs may influence significant serum cholesterol and blood pressure reductions in high-risk employees. Author-abstract.

AU Weisbrod-R-R. Pirie-P-L. Bracht-N-F.

IN Department of Sociology, Augsburg College, Minneapolis, MN 55454.

TI Impact of a community *health* *promotion* program on existing
organizations: the Minnesota Heart *Health* Program.

SO Soc-Sci-Med. 1992 Mar. 34(6). P 639-48.

JT SOCIAL SCIENCE AND MEDICINE.

AB A community organization strategy was used in the delivery of *health* education programs by the Minnesota Heart *Health* Program (MHHP). The effectiveness of the approach was evaluated to determine whether an enhanced *health* *promotion* delivery system had developed in MHHP communities by the end of the intervention period or whether the intervention had suppressed community efforts. 'Social connectedness' among providers, as measured by *health* *promotion* network size, also was expected to be higher in intervention communities. Six Midwestern communities were studied: the MHHP communities of Mankato, MN and Fargo, ND--Moorhead, MN with two matched comparison communities for each (Winona, MN, St Cloud, MN and Eau Claire, WI, Sioux Falls, SD). Nine areas of *health* *promotion* were assessed, including the five heart disease risk factor areas where education campaigns had been implemented (smoking cessation, weight loss, eating patterns, exercise, and heart disease education and screening) and four other areas where community programs are common (chemical dependency; home, personal and drivers' safety; stress management; and cancer education and screening). Indicators of the *health* *promotion* delivery system were developed (program options and program participation), and data were collected in separate surveys of 438 community organization providers and 320 larger *worksites* in the six communities. Results showed no suppression of *health* *promotion* delivery systems in MHHP communities. Instead, the survey of larger *worksites* showed that there was greater participation in heart disease *health* *promotion* and greater 'social connectedness' among *worksites* in both intervention communities. Also, there were more heart disease *health* *promotion* programs in the larger intervention community of Fargo-Moorhead. In the community organization survey, results favored the larger intervention community over its comparison communities in heart disease *health* *promotion* program options and in 'social connectedness' but not in program participation. However, survey results favored one of the comparison communities (Winona) over the smaller intervention community (Mankato) on all indicators in this survey. The greater impact of the MHHP intervention at *worksites* suggests that institutionalization may be more likely in stable organizations whose current needs and interests fit the goals of the intervention activity.

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TI Cholesterol screening using the school as a *worksite.*

SO *J-Sch-Health.* 1992 Feb. 62(2). P 45-9.

JT JOURNAL OF SCHOOL *HEALTH.*

AB This article illustrates the appropriateness of the school as a *worksite* for *health* *promotion* programs and demonstrates how cholesterol screening is an effective tool to introduce such a program into a school system. Of 1,639 employees, 1,217 elected to

have their cholesterol measured (74% response rate). Forty-five percent had elevated cholesterol according to the NIH Consensus Panel. Of these, 12% were in the "high" category (greater than or equal to 240 mg/dl) while 33% had levels that placed them in the "borderline high" risk category (200-239 mg/dl). Cholesterol screening can be incorporated easily into most school systems due to the presence of nursing staff and *health* educators. Systematic planning is essential for success and must include a counseling and educational intervention coupled with an active referral and follow-up program. This type of screening should be part of a multicomponent *health* *promotion* program.

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TI A profile of *health* risks among blue-collar workers.

SO J-Occup-Med. 1992 Jan. 34(1). P 61-8.

JT JOURNAL OF OCCUPATIONAL MEDICINE.

AB Despite national objectives for extending *health* *promotion* programs to blue-collar workers and to small work sites, baseline behavior information for planning such programs is lacking. This study seeks to describe the *health* risks and norms specific to a population of male, blue-collar gas pipeline workers in remote sites. These workers (n = 395) completed a *health* risk appraisal and a *"health* gauge" survey designed to measure nutrition, physical activity, tobacco use, participatory patterns in *health-enhancing* activities, group norms, and change efforts. Selected behaviors were similar to those of other Texas men (eg, smoking 27% versus 26%) although others were not (eg, smokeless tobacco 18% versus 8%). Multivariate analysis confirmed the relationship of friends' behavior patterns, risk-taking, and interpersonal experience to four lifestyle *health* behaviors. With 75% or more of workers expressing an interest in various programs, the findings suggest that programming for this population can be successful if tailored to current behaviors and the *worksite* culture.

TI *Worksite* and Community *Health* *Promotion/Risk* Reduction Project--Virginia, 1987-1991.

SO MMWR-Morb-Mortal-Wkly-Rep. 1992 Jan 31. 41(4). P 55-7.

JT MMWR. MORBIDITY AND MORTALITY WEEKLY REPORT.

AB Because cardiovascular disease (CVD) is a leading cause of premature disability and death in the United States, approaches are needed to prevent this problem at the community level. In the Mount Rogers *Health* District (MRHD) (1990 population: 178,000), a six-county area in southwestern Virginia, age-adjusted death rates for CVD substantially exceed state and national averages. In August 1987, the MRHD implemented the *Worksite* and Community *Health* *Promotion/Risk* Reduction Project to help residents of this large, rural area improve their *health* by adopting healthy lifestyles and, consequently, reduce their risks for CVD and cancer. This report summarizes activities

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