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NATIONAL PRIORITIES IN OCCUPATIONAL HEALTH IN FINLAND

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ABSTRACT

In a highly industrialized country like Finland the medical priorities in occupational health services are changing; classical physical, psychological and toxicological risks have been overcome and new risks of a psychosocial character, as well as problems of subclinical occupational diseases appear.

Organizational problems of coverage, content, manpower resources, integration and control of occupational health services tend to be solved by means of the occupational health act. The new act deals with the present problems effectively and prepares the society to respond to the new problems of a highly industrialized production.

MEDICAL PRIORITIES IN OCCUPATIONAL HEALTH

Since the 1960's the number of occupational diseases registered and compensated for has increased annually up till 1975, whereafter a levelling off is seen (Fig. 1). In 1977, 4639 occupational diseases (including dermatoses) were registered[7], which corresponds to an incidence rate of about 21/10000 in the active population (2.2 million) and 39/10000 in the population which is served by occupational health services (1.2 million). The main groups of occupational diseases are given in Table 1.

TABLE 1
Main groups of registered occupational diseases in Finland in 1977[7].

Disease	N	%
Occupational dermatoses	1608	34.7
Hearing impairment due to noise	1607	34.6
Injuries caused by monotonous work	775	16.7
Chemically-induced diseases (other than dermatoses)	361	7.8
Others	288	6.2
Total	4639	100

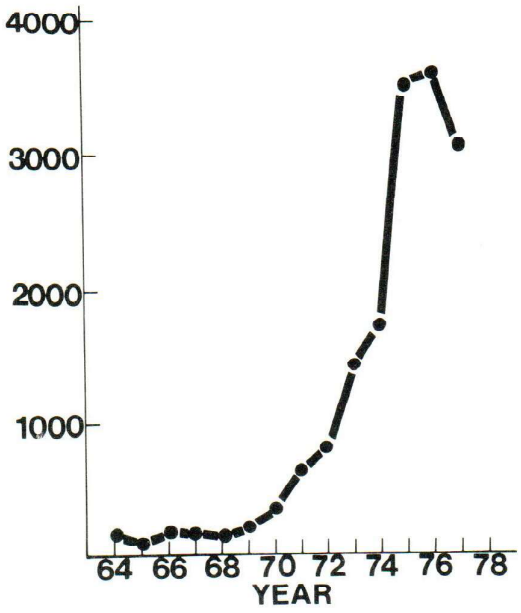

FIG. 1 – Number of registered occupational diseases in Finland in 1964–1977[7,8].

Since the sixties the total number of occupational diseases has increased 30-fold[8]. This is attributed to changes in the compensation criteria, development of occupational health services, intensive research in the field and partially to an increase in exposures in industry (as in the case of monotonous work)[5]. Today the traditional hazards like pneumoconioses and heavy metal poisonings have almost been overcome[9]. Our present interest lies in the prevention of long-term exposures to carcinogens, teratogens and allergens, multiexposures to several chemicals, elimination of physical monotony, psychological monotony and psychological overload. The prevention of noise hazards is, however, still a problem because noise appears to have been extremely resistant to preventive measures in certain industrial branches[3]. According to rough approximations, about $^1/_3$ of the industrial workers are exposed to specific risks in Finnish industry (Table 2), and in certain branches several risks are concentrated on one and the same population. With the improvement in general industrial hygiene at workplaces the occupational health service personnel is faced with new problems which concern subclinical occupational diseases and unfamiliar diseases which do not belong to traditional occupational medicine (psychosomatic disorders and psychosocial problems, overloading diseases of the locomotor system, etc). Prevention of these risks demands medical priority in occupational health services and requires that great emphasis be put on the primary sources of exposure instead of searching for pathological changes in individual workers. The new priorities mean radical changes in the training programme for occupational health doctors and nurses, in regard to plant level epidemiology and psychosocial problems of work environment.

TABLE 2
Main exposures and approximate numbers of exposed workers in the Finnish industry[6].

Exposure	Approximate number of exposed	% of labour force
Noise	300 000	14
Chemicals	200 000	9
Physical monotony	200 000	9
Psychological overload or under load	200 000	9
Total number of exposed workers*	700 000*	30*

*Overlapping between various groups

PRESENT STATUS OF OCCUPATIONAL HEALTH SERVICES IN FINLAND

Several problems in the arrangement of occupational health services have been identified, though development of a service network has been rapid since the collective agreement on occupational health services was made by labour market organizations in 1971[10] (Fig. 2).

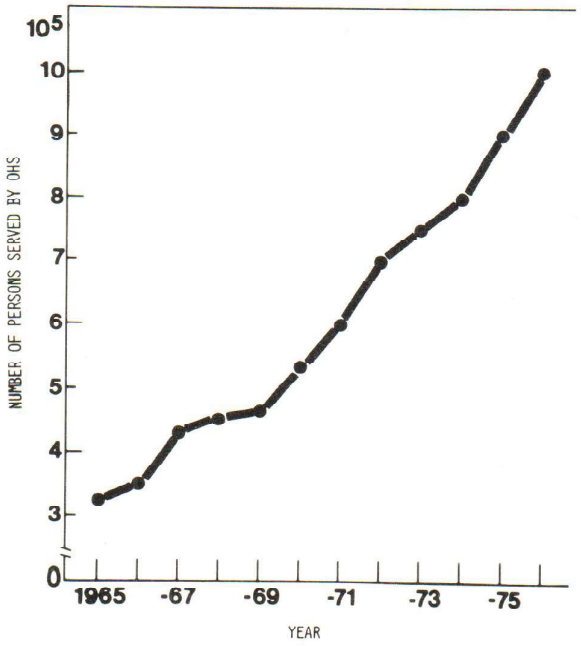

FIG. 2 – Number of employees served by occupational health services in Finland in 1965–1977[5].

The problems of greatest importance are the same as in most industrialized countries: coverage of services, content of occupational health services, manpower resources, integration of occupational health services with other parallel activities and problems of control of service provision.

Coverage

About 70% of the employed population is served by occupational health services. However, the remaining 30%, (consisting of 0.6 million persons) employed mainly in small industries and in the building industry and, in addition, practically all self-employed people and farmers, is so far lacking services[1]. The services have not been distributed according to the need, but other factors like the size, economic status and location of the enterprise have determined the development of the service network. The coverage figures in various industries are as follows: agriculture 3%, forestry 52%, manufacturing industry 77%, building industry 25%, commerce 33%, traffic 73% bank and insurance 46%, and other services 55%[13].

Content of occupational health services

Traditionally occupational health services have been mainly curative, disease- and worker-oriented instead of being preventive and work environment--oriented. In 1976 about one half of the workers who were served by occupational health services obtained care which was properly balanced to contain preventive and curative activities, whereas the second half received more curative services[13]. On the other hand since 1972 curative and preventive primary care services have been organized by municipal health centres so that there is a risk of overlapping.

Manpower resources

The present manpower resources for occupational health services are given in Table 3. Where occupational health services have been organized the

TABLE 3

Present manpower resources of occupational health services as total number of various personnel groups, labour force per occupational health service persons within covered population and labour force per occupational health service persons within whole active population[12].

Personnel	Total	Within covered employees per OHS-person	Labour force per OHS-person
Doctors	950*	1 000	2316
Nurses	1 150	905	2095
Hygienists	30	–	–
Others	1 000	950	2200
Total	3 130	304	703

*600 part-time, 350 full-time basis.

availability of the manpower resources is satisfactory. The fact that the personnel is part-time, however, affects the quality of the services. The content of occupational health services is the more preventive the more full-time personnel is included. Also the educational background of the personnel is better among those employed full-time. Permanent and full-time occupational health personnel is necessary if proper occupational health services are to be achieved[12].

Integration with public health services and labour inspection

On the basis of a collective agreement, occupational health services have been developing independently from public health service activities and from labour inspection activities. This has produced partly overlapping activities, with public health services being carried out by the local health centres and lags in the transmission of information to labour inspection and vice versa. There is an especially great risk of duplicating work with public health services because of e.g. the high rate of general health examinations in the country. To enable maximum utilization of resources, coordination of activities is needed.

Control of occupational health service activities

Two problems of control have arisen. The first is control of the medical and hygienic part of occupational health services at various levels (at the plant, regional or national level). In other words, what is the role of medical authorities and what is the role of labour protection authorities? The second concerns the role of workers in the control of occupational health services. As the ultimate goals of occupational health services are reached only on the basis of a full cooperation with employees, the participation of workers in the planning and control of occupational health services must be substantial.

OCCUPATIONAL HEALTH ACT

To meet the above problems an occupational health act was passed by the Finnish Parliament in June 1978[11]. The act is intended to solve the main problems with varying efficiency.

Coverage

Full coverage is reached by the act which obliges the employer to take responsibility for the arrangement, costs and planning of occupational health services irrespective of the size, location or type of the enterprise. The employer can use in-plant or inter-plant group stations or he can buy the services from municipal health centres. The employer will get subsidies for the costs of occupational health services provided the content of occupational health serv ces follows the principles set down in the act. This also holds good for enterprises which are poor economically e.g. small enterprises. Municipal health centres form a network covering the whole country and must provide occupational health services if requested. Municipal health centres are expected to provide

services for small enterprises as well as for self-employed people and farmers. In this way the act solves the coverage problem very effectively.

Content

The act states the minimum content for occupational health services[11]. These are:[1]

1. Survey of risks and risk assessment when production is planned or started, or when production system is changed. The survey can be continuous, when necessary. It can also be based on plant visits.
2. Communication of information, health education (information for employees on specific risks in the branch and in the workplace).
3. Medical examinations: pre-placement, pre-employment, in connection of specific exposures or when OHS-personnel regards it necessary.
4. Medical examinations for chronically diseased, handicapped and other employees with high sensitivity or low performance.
5. Control of organization and quality of first-aid readiness.

It follows traditional lines, but some special characteristics warrant attention:

- responsibility to arrange occupational health services for all employers, e.g. no size limits for enterprises are given,
- self-employed people and farmers are included in the target population, but their participation is voluntary,
- the content of occupational health services is highly preventive; most attention is paid to primarily preventive measures directed at eliminating risks from the working environment. Measures directed at individuals are based on knowledge of specific exposures,
- handicapped, chronically ill and other special groups are particularly taken into consideration,
- small-scale epidemiological studies are included in the occupational health services; this guarantees the detection of subclinical cases of occupational diseases which cannot be detected at the individual level,
- health examinations are done on the basis of information obtained from occupational exposures, no general health examinations are done (because they are included in the public health services),
- prevention of diseases caused partially by work related agents and partially by non-occupational factors are taken into consideration.

Manpower resources

To reach full coverage, 240 doctors and about 1 000 other occupational health personnel are needed in addition to those already engaged in occupational health service. Training of the personnel has started. According to the new act,

the National Board of Health will have the right to make complementary training mandatory for doctors when needed. The act will not directly solve the problems of manpower resources, but by stabilizing the activity on a statutory basis it will increase the attractiveness of occupational health as a life-long career and if given the occupational health personnel the status based on legislation. Controlled training will promote the development of prevention-oriented activities according to the principal goals of the act. Since 1954 an occupational medicine specialty has existed and now a new specialty in occupational health services (plant level activities) is being planned[2].

TABLE 4
Total manpower resources after full enforcement of the occupational health act[2].

Personnel	Number of persons	Labour force per OHS-person
Doctors	1 200	1 833
Nurses	1 600	1 375
Hygienists	130	16 923
Others	1 500	1 467
Total	4 430	497

The forecast for occupational health service personnel after enforcement of the act is given in Table 4. The average ratio of occupational health persons to served workers will be 3 examinations/person which corresponds to the situation in large industries today.

INTEGRATION WITH OTHER PARALLEL ACTIVITIES

Parallel with the organization of statutory occupational health services at the primary level, other measures have been taken to organize further medical and hygienic occupational health services (Fig. 3). Out-patient departments of the university central hospitals serve as the second step and the Institute of Occupational Health as the final step for the diagnosis and therapy of occupational diseases. Problems in the work environment are simultaneously handled by the Regional Institutes of Occupational Health and the Central Institute of Occupational Health. In other words, the system which is under construction will take care of problems of both the work environment and sick workers and various levels of service are available depending on the complexity of the case[4].

Occupational health services are of interest both to public health service authorities and to labour inspection authorities. To guarantee coordination of these bodies at plant, regional and national levels, occupational health service plans are requested at each level. At the plant level, a safety commission will discuss the plans for occupational health services before applications for subsidies

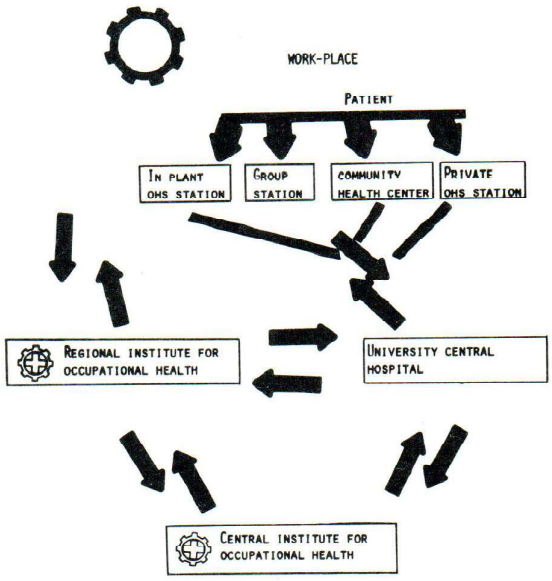

FIG. 3 – Integrated service system for occupational health services, hygienic services and for diagnosis and therapy of occupational diseases in Finland[5].

CONTROL		ACTIVITY		RESPONSIBILITY
LABOUR INSPECTION SAFETY COMMITTEES	→	ORGANIZATION	→	EMPLOYERS
HEALTH AUTHORITIES	→	PRODUCTION OF SERVICES	→	MUNICIPAL HEALTH CENTRES IN- AND INTER-PLANT OHS-STATIONS
NATIONAL SOCIAL INSURANCE INSTITUTION SAFETY COMMITTEES	→	SUBSIDIES	→	EMPLOYER SELF-EMPLOYED
LABOUR INSPECTION SAFETY COMMITTEES	→	RESPONSIBILITY OF EMPLOYERS DUTIES	→	EMPLOYER
HEALTH AUTHORITIES	→	DUTY TO KEEP SECRET	→	OHS-PERSONNEL

FIG. 4 – Responsibilities and control of occupational health service activities to occupational health act[11].

are made. The commission presents an evaluation which will be taken into consideration before the subsidies are paid. This gives the workers' representatives the possibility to influence the arrangement of occupational health services. Figure 4 describes the responsibilities and controlling bodies according to the new act.

REFERENCES

1. *Finnish Trade Unions Confederation and The Finnish Employers' Confederation.* Agreement on occupational health services, Helsinki 1971 (in Finnish).
2. *Government of Finland.* Act on occupational health services, 1978.
3. *Hernberg, S., Tola, S. and Vaaranen, V.* Ten years' campaign against occupational lead exposure in Finland: Problems, achievements and lessons. XIX International Congress on Occupational Health, Dubrovnik 25.–30. 9. 1978, Abstracts p. 73.
4. *Ministry of Education.* University level education and research in occupational health. Helsinki 1974 (in Finnish).
5. *Rantanen, J.* Die Lage der Berufskrankheiten und die Betriebsgesundheitsbetreuung in Finnland. Z. Ges. Hyg., **24** (1978) 32–35.
6. *Rantanen, J.* New developments and policies in the optimisation of the working environment. International Symposium on New Trends in the Optimisation of the Working Environment, Istanbul 16.–19. 5. 1978.
7. *Vaaranen, V. and Vasama, M.* The Finnish Occupational Disease Register in 1977. Katsauksia 3, Institute of Occupational Health, Helsinki 1978, p. 99 (in Finnish).
8. *Vaaranen, V.* Occupational diseases listed in the Occupational Disease Register of Finland in 1964-74. An academic dissertation. Työterveyslaitoksen tutkimuksia 128, Institute of Occupational Health, Helsinki 1977, p. 228 (in Finnish with English summary).
9. *Vaaranen, V.* Reported occupational diseases as an indicator of the level of labor protection. XIX International Congress on Occupational Health, Dubrovnik 25.–30. 9. 1978, Abstracts p. 767.
10. *Vaheri, E., Starck, J., Vaaranen, V. Lehtinen, P.U.* Noise measurements and registered noise defects. Suom. Lääk. L., **33** (1978) 951–954 (in Finnish).
11. *Ylikoski, M., Elo, O., Karvonen, M.J., Kiianlinna, O., Nokelainen, U., Suutarinen, H. and Voss, K.* Disposition of working time of occupational health personnel. Suom. Lääk. L., **31** (1976) 614 617 (in Finnish).
12. *Ylikoski, M.* The expansion of occupational health care guaranteed by legislation. Paper presented in Täljöviken 5.6.78 (in Swedish).
13. *Ylikoski, M., Luoma, K. and Nokelainen, U.* Occupational health services in 1976 arranged by employers. Helsinki 1978 (unpublished).