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THE USE OF HEALTH ECONOMICS TERMINOLOGY IN CLINICAL PUBLICATIONS: BRIDGING THE GAP FROM CLINICAL EFFECTIVENESS TO COMPARATIVE EFFECTIVENESS

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OBJECTIVES: As the demands of the current regulatory climate and US Health Care Reform call for greater outcomes-based evidence in health care, the scientific literature is increasingly incorporating pharmacoeconomic data into peer-reviewed clinical publications in order to demonstrate value to payer audiences. Data from clinical outcomes and cost studies are increasingly finding their way into traditional clinical papers and review articles. It has been observed that variations may exist in the use of health outcomes data and terminology. The purpose of this presentation will be to demonstrate how clearer and more consistent terminology can be integrated into scientific publications and other vehicles in order to more effectively communicate economic and clinical outcomes information. **METHODS:** Using specific examples from clinical publications, the presentation will: Identify and analyze common terms used for communicating health economic and outcomes research information to determine; If they have multiple and/or unclear meanings; How they are being used to convey information; Define the specific meaning of these terms, using language that is understandable to all stakeholder audiences; Provide examples/case studies demonstrating how more uniform and consistent definitions can be integrated into payer-focused clinical publications **RESULTS:** An overview of the findings regarding how to address specific areas of confusion and inconsistency will be provided. **CONCLUSIONS:** The results will reiterate the need for clear and consistent terminology in communicating value in clinical publications.

PHP69

MOBILE MEDICAL RECORD—A LIFE SAVING TOOL

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BACKGROUND: An emergency services team is launched to treat a man who collapsed in the street. The team takes John Doe's mobile phone, and within seconds retrieves the required clinical parameters from his Mobile Medical Record (MMR) thus providing a life-saving treatment suited to his personal health condition. Have the necessary clinical parameters, required at emergency situations, ever been examined in order to best match both emergency situations and cellular technology? **OBJECTIVES:** Characterization of the clinical parameters which assemble an MMR in the context of saving life and propose a model for an MMR in emergency medicine. **METHODS:** Characterization of the essential emergency medicine clinical parameters in the context of life-saving treatments, through interviews with prehospital and hospital experts in emergency medicine. Supported by a Cellular multimedia expert, analysis of the results in order to incorporate the clinical parameters into the cellular world as an MMR. **RESULTS:** Emergency medicine teams chose individual and specific clinical parameters in a certain order of appearance from the general medical record which should assemble, in their opinion, emergency medicine MMR. MMR was chosen by the emergency medicine treatment teams as one of their preferred communication method among the possible communication methods presenting a patient medical record in the context of life-saving treatment. **CONCLUSIONS:** The MMR model, if applied correctly, will provide the emergency medicine treatment teams an available, reliable, homogeneous database of real time clinical parameters adapted to life-saving conditions. The MMR model represents a conceptual revolution of taking out the medical record from the caregiver and transferring it to the patient, which can be constantly at hand at any given time or place. By doing so, the MMR contributes and becomes integrated with the leading approaches in the world of medicine supporting a patient-centered care policy.

PHP70

CURRENT TRENDS IN HEALTH TECHNOLOGY INCORPORATION (HTI) IN BRAZIL: INSIDE THE NATIONAL HEALTH SYSTEM'S (NHS) BLACK BOX

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OBJECTIVES: We aimed to evaluate the trends of submissions and recommendations received and emitted by the Brazilian Commission on Health Technology Incorporation (CITEC) during the process of adoption/exclusion of technologies on the country's Public Health System and to critically appraise this process and to analyze the challenges this commission faces in responding to the increased demand for incorporation of new technologies. **METHODS:** All submissions on health technologies made to CITEC and the respective responses obtained between 2003 and 2010 were reviewed. They were classified by field of interest, origin of request and type of response. **RESULTS:** During the selected period CITEC received 222 proposals for technology incorporation and produced 83 recommendations. We identified an increase in submissions after 2007. From 2003 to 2006, only 39 requests were submitted on total. After 2007, an average of 49 submissions per year was made. The main fields were endocrine and metabolic disorders (12%), Oncology (11%) and Rheumatology (11%), but the percentage of responses in these fields was low (34%, 8% and 28% respectively). More than 70% of the submissions were commissioned by the Industry (162), but only 27% of these were answered. However, almost all submissions sent directly by the Ministry of Health were answered (94%). Among recommendations from CITEC, 53% were favorable to the incorporation of the new technology and 30% were contrary to it, 17% were cancelled submissions. Adopted technologies were mainly for hepatitis (14%), endocrine and metabolic disorders (11%) and genetic disorders (11%). **CONCLUSIONS:** Although there isn't a clear definition of priorities for the incorporation of new technologies by the Brazilian Ministry of Health, it is possible to map trends in the recommendations issued by CITEC. It is of the utmost importance to achieve greater disclosure of the criteria for selection of technologies for incorporation by the Commission.

PHP71

PREDICTING OUTCOMES AMONG PATIENTS WITH PROLONGED MECHANIC VENTILATION: A DISCRIMINATION MODEL BASED ON LONGITUDINAL HEALTH INSURANCE REGISTRATION AND CLAIMS DATA

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OBJECTIVES: To identify patients with low survival probability among those with prolonged mechanical ventilation (PMV; >=21 days of use) under the Taiwan National Health Insurance (NHI), and explore the length of their time free of inpatient mechanical ventilation (MV) and MV-related hospital expenses during the four years following PMV. **METHODS:** This is a retrospective cohort study using death certificates data and longitudinal NHI data for a national representative sample of 25,482 new PMV patients in 1998–2003. Logit regression was used to determine factors associated with 3-month, 6-month, 1-year and 2-year survival. Explanatory factors included hospital characteristics, and individual demographics, socioeconomic conditions, diseases at the PMV onset, and diseases causing hospital care use within the year before PMV. The probability cutoff was set at 10% for identifying patients with low survival likelihood and suitable as targets of advocating less intensive care. **RESULTS:** Five disease types had high prevalence, and were significantly associated with lower survival: septicemia, neoplasm, shock, acute and unspecific renal failure, and chronic renal failure. Each had an odds ratio <0.65 ($p < 0.001$). Non-alcohol-related liver disease was also a significant problem. Each survival model had a C-statistic >= 0.7. At the 10% probability cutoff, 1.5%, 5.1%, 11.9% and 21.8% of PMV patients were identified as negative cases for 3-month, 6-month, 1-year and 2-year survival. The negative predictive values were 86.5%, 86.1%, 89.4%, and 91.8%, respectively. During the four years after PMV, 75% of these patients had 25 or fewer days free of MV-related hospital care, and more than 50% of them spent at least 10,800 dollars (2010 USD) on MV-related hospital care. **CONCLUSIONS:** This discrimination model has acceptable performance. It helps in selecting potential targets for advocating less intensive care, and also generates more empirical evidence on prognosis that can facilitate patient-clinician and family-clinician communication.

PHP72

ANALYSIS THE AVERAGE SOJOURN TIME AND BOTTLENECK AFTER A DISASTER IN HOSPITALS

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OBJECTIVES: The purpose of this study is to consider the average sojourn time of patients figure out hospital's function after a disaster striking. **METHODS:** This study explores the average sojourn time of patients and bottleneck in hospitals in the region defined by this study. Especially, we focus on three days after a disaster striking the region. We defined three scenarios. • Scenario I:Hospital No.II ceases to function two days from disaster strikes. • ScenarioII:Hospital No.II ceases to function one day from disaster strikes. • ScenarioIII:ScenarioIII is the same scenario as the scenario I, but considering transport from break down hospital (hospital No.2) to hospitals in operation. Patient's arrival interval λand treatment time μ are equal to the data of Hanshin earthquake. With the use of those scenarios, we analyze the average sojourn time of patients and bottleneck with a queuing approach, critical path method and little's law. In addition to that, we make Cumulative flow graph to analyze bottleneck. **RESULTS:** Comparing scenario I and scenario III, the average sojourn time of general hospital of scenario III is longer than scenario I, although scenario III has more choices. It reveals considering transport from break down hospitals to hospitals in operation extends the average sojourn time. We observed bottleneck in case of changing patient's arrival interval λ by making cumulative flow graph. This study shows cumulative flow graph reveals status of hospital's function after a disaster. **CONCLUSIONS:** The results confirm that the average sojourn time of patients increase in case of changing hospital, Braess's paradox and cumulative flow graph reveals status of hospital's function after a disaster.

PHP73

CONTENT OF HOME PHARMACIES IN SERBIA

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OBJECTIVES: To get insight into the amount, structure and financial aspects of medicines in home pharmacies as well as learning about the population's attitudes, habits and knowledge concerning self-medication. **METHODS:** This survey was conducted in the first half of 2010. on a sample of 50 families on the territory of Novi Sad, Serbia. The families were chosen randomly and the data were collected by using the standardized questionnaire and checking the inventory of medicines. **RESULTS:** The average number of packets in home pharmacies per a family is considerable (13

packets). The most widely kept medicines are medicines for the central nervous system (21%), the disorders in the digestive system and metabolism (16.7%) and medicines for the diseases of the respiratory system (14.5%). Nearly three-fourths of opened packets were not entirely consumed. a large number of medicines in home pharmacies (79%) was obtained self initiatedly and many of them were beyond their expiry date (9.5%). a total of 25% of the financial means for those medicines was provided from health insurance funds. The total cost of medicines in home pharmacies per a family in Serbia was €25.13. a total of 72% of that amount was paid by the patients themselves. Pharmacoeconomic indicators in certain groups of medicines show that the largest percentage of the financial means for home pharmacies in Serbia is spent on the medicines for gastrointestinal problems and metabolism disorders (17%). **CONCLUSIONS:** Based on the analyzed data, self-medication, that is, unreasonable use of medicines, is a big problem in Serbia. The use of these medicines involves the risk of inadequate treatment of the illness, frequent occurrence of side-effects which sometimes requires additional treatment, which only increases the expenses for both the patients and health funds. Therefore, it is necessary to closely monitor the issuing of prescriptions as well as educate the population.

PHP74

PRIMARY HEALTH CARE AND POTENTIALLY AVOIDABLE ADMISSIONS: A 10-YEAR ASSESSMENT FROM THE PERSPECTIVE OF A HEALTH CARE PLAN

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OBJECTIVES: To examine the evolution of the rate of admissions for ambulatory care sensitive conditions in beneficiaries of a health care plan, monitoring of access to the health system and its performance and identifying strategies that will enable the improvement of the health situation of the population and the appropriate allocation of resources. **METHODS:** Retrospective analysis of 212,360 hospital admissions, occurring between 1999 and 2008, among beneficiaries of a health care plan, resident in Brazil. The outcome of the study was the proportion of admissions for primary care sensitive conditions, identified by ICD-10. The proportion of these admissions in relation to the total hospital admissions was established, as well as the quotient for the number of hospital admissions and the population, either total or by age group and specific causes, besides hospital direct costs. The significance was tested and estimates of the rates were defined based on their 95% confidence intervals. **RESULTS:** Admissions for primary care sensitive conditions accounted for 55,307 of 212,360 admissions reimbursed by the health plan (26.0%). The rate of admission for primary care sensitive conditions fell by 28.0% during the period (from 347.6 to 250.3 per 10 thousand). The most frequent cause was gastroenteritis (30.9%), followed by arterial hypertension (13.6%), cerebrovascular diseases (9.6%), heart failure (8.1%), kidney and urinary tract infections (6.8%), diabetes mellitus (5.8%) and angina pectoris (5.5%). The mean annual expenditure on admissions was R$15,232,494 against R$51,440,680 for other conditions (22.8%). **CONCLUSIONS:** The reduction observed in the rate of admissions for primary care sensitive conditions suggests possible improvements in primary health care. Further actions and strategies could reduce the number of avoidable admissions and contribute to the financial balance of the health care plan.

PHP75

EVALUATION OF THE IMPACT OF INPATIENT CLINICAL PHARMACY SERVICES ON THE QUALITY AND COST OF PHARMACOTHERAPY IN INTERNAL MEDICINE WARDS

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OBJECTIVES: The purpose of this longitudinal descriptive study was to evaluate the influence of interventions by clinical pharmacists on processes, outcomes of care and economical outcomes. **METHODS:** The patients who were hospitalized at internal medicine wards, Songkhla hospital during October 1, 2008-September 30, 2009 were recruited to this study. The core set of clinical pharmacy services were admission drug histories, drug protocol management, adverse drug reaction management, drug information, medical rounds and patient discharge counseling. The clinical pharmacists collected patients' data, pharmacists' interventions, direct drug cost-saving and activities on a specific designated form. The data was processed on a computerized database. Clinical pharmacist interventions were counted and classified and analyzed to determine the influence on the quality and cost of pharmacotherapy. Descriptive statistics were used in data analysis. **RESULTS:** At the end of the study period the following were found: a total of 3796 patients were recruited. Clinical pharmacy services on internal medicine wards contribute to maximizing the pharmacotherapeutic effect and rationalization of drug therapy in 609 patients (16.0%), increase medication safety in 338 patients (8.9%) and reducing drug expenditures in 575 patients (15.1%). Cost-saving from reconciling process was US$12,682 and cost-saving from pharmacists' interventions were US$6,298. The frequent type of interventions was maximizing the pharmacotherapeutic effect (40.8%), rationalization of drug therapy (30.3%) and minimizing the risk for developing adverse drug effects (28.9%), respectively. The top two of drug related problems found in cardiovascular drugs (30.5%) and antibiotic drugs (24.8%), respectively. **CONCLUSIONS:** The results of this study indicate that inpatient clinical pharmacy services on internal medicine wards contribute to rationalization of drug therapy, increase medication safety and reduced the direct expenditures on medications. Therefore, future studies should include multiple sites such as in a general surgical department and clinical pharmacy services should be continued.

PHP76

ALLOCATION OF A SINGLE BUDGET FOR HEALTH CARE, PROFESSIONAL EDUCATION, AND RESEARCH

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OBJECTIVES: Funding for health care programs competes with funding for professional education (ie, implementation of health care programs) and funding for research to reduce uncertainty around program cost-effectiveness. No study has yet shown how to allocate a combined budget for health care, professional education, and research. Previous work did not consider the fundamental idea that interventions with an acceptable incremental cost-effectiveness ratio (ICER) for an adoption decision may not be acceptable any more once implementation decisions are made simultaneously. Furthermore, previous work did not consider that cost-effectiveness of research is conditional upon the programs chosen for adoption and implementation. The purpose of this work is to present a sequential process to allocate a combined budget with the goal to maximize health. **METHODS:** Development of a 3-step allocation process to maximize health based on a single budget for health care, professional education, and research **RESULTS:** As a first step, a league table approach determines which programs would be funded if the combined budget were spent just on adoption. The second step analytically determines a new (lower) threshold ICER which maximizes health by discontinuing programs above the new threshold and investing in implementing programs below the threshold. The third step considers cost-effectiveness of research to reduce uncertainty around program cost-effectiveness. In order to fund this research, the threshold ICER for adoption plus implementation has to be reduced further. In order to maximize health, ICERs of research studies need to equal the newly defined threshold ICER for adoption plus implementation. **CONCLUSIONS:** A 3-step allocation process is able to maximize health based on a single budget for health care, professional education, and research. Compared to a programming approach the proposed approach yields a closed-form analytical solution and is able to consider that research decisions are conditional upon adoption and implementation choices.

PHP77

DIRECT CONTRACTS ON PATENT-PROTECTED PHARMACEUTICALS IN GERMANY: MOTIVES OF SICK FUNDS AND PHARMACEUTICAL COMPANIES

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OBJECTIVES: To investigate the motives of both contracting parties, sick funds and pharmaceutical companies, to enter into direct contracts on patent-protected pharmaceuticals in the outpatient sector in Germany. **METHODS:** A systematic literature review was performed in March 2010 to identify contracts on patent-protected pharmaceuticals in Germany. Standard literature databases such as Pubmed and EMBASE, different market research databases and the 'Lauer-Taxe', the official German price registry for pharmaceuticals were utilised. We included only officially reported contracts. a detailed market analysis was conducted to identify the motives of the identified contracts. **RESULTS:** The number of direct contracts has been recently increasing. a total of 116 contracts were found. Formally, they are all rebate contracts due to German law. However, they include risk-sharing (n = 6), cost-sharing (2), added value (5) and simple rebate contracts (103). For sick funds, major motives were cost cutting, positioning within the market, attracting the "right" members, improving the medical treatment and right coding. Pharmaceutical companies show several motives that can be clustered into proactive and reactive motives: Proactive motives were: gaining access to reimbursement beyond standard coverage, funding of managed care concepts, bridging a time gap until market entry of a successor, maintaining the attractiveness after patent expiration as well as shaping the market access environment. Reactive motives were: rebate contracts of competitors, limitations and exclusions from reimbursement by the federal joint committee as well as reacting to attempts by sick funds and Associations of Statutory Health Insurance Physicians to control drug expenditures. **CONCLUSIONS:** Direct contracting on patent-protected pharmaceuticals seems to play a increasing role in the strategic considerations of pharmaceutical companies and sick funds.

PHP78

A TALE OF FOUR COUNTRIES: COMPARING REIMBURSEMENT SUBMISSION REQUIREMENTS IN IRELAND, ENGLAND, WALES AND SCOTLAND

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OBJECTIVES: Requirements for a Health Technology Assessment (HTA) submission vary within the UK (England and Wales [National Institute for Health and Clinical Excellence (NICE)], Scotland [Scottish Medicines Consortium (SMC)], and Wales [All Wales Medicines Strategy Group (AWMSG)]) and the Republic of Ireland (National Centre for Pharmacoeconomics [NCPE]). The objective of this study is to determine whether the likelihood of reimbursement in these markets is linked to HTA submission requirements. **METHODS:** Dossier requirements issued by NCPE, NICE, SMC and AWMSG were compared, and a checklist of requirements compiled. We investigated 20 interventions most recently reviewed by the NCPE, and recorded the recommendations for these compared with those issued by NICE, SMC and AWMSG. **RESULTS:** Economic analysis is key for an NCPE submission, although there are no specific requirements or template for the clinical data. Requirements for NICE are the most stringent; SMC and AWMSG have similar requirements. Of 20 interventions reviewed by NCPE, 11 (55%) were reimbursed