sus those with 80% adherence. Total expenditures considered expenditures from inpatient admissions, ER visits, and medications. Potential savings was defined as reduction in total expenditures due to increasing adherence. **RESULTS:** Nonadherence resulted in increased all-cause total expenditures in diabetes, cholesterol, and heart by $240 million (M), $150M, and $47M, respectively. Increasing adherence by 2% reduced increases in all-cause expenditure by 11% to 21%. Nonadherence resulted in increased disease-specific hospitalization and ER visit expenditure for depression ($6M), diabetes ($44M), and cholesterol ($5M). However, increases in the disease-specific hospitalization and ER expenditures were offset by lower medication expenditure, thus resulting in overall lower disease-specific expenditure among the nonadherent patients. Overall, increases in medication adherence resulted in savings in all-cause expenditure but not in disease-specific expenditure. **CONCLUSIONS:** Medication nonadherence can be costly to payers. Increasing adherence even by small amounts may result in significant savings.

PHP60

DRUG-RELATED MORBIDITY – MODELING THE COST-OF-ILLNESS IN SWEDEN USING PHARMACISTS' OPINION

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OBJECTIVES: The aim of this study was to estimate prevalence and preventability of drug-related morbidity in Sweden based on pharmacists' expert opinion. Furthermore, the aim was to estimate the cost-of-illness (COI) of drug-related morbidity. **METHODS:** Probabilities of therapeutic outcomes of medication therapy were estimated by an expert panel of pharmacists (N=29) using a two-round delphi-methodology and a conceptual model of drug-related morbidity based on a decision tree. We used an American conceptual model adjusted to the Swedish context. In the model, drug-related morbidity included new medical problems (adverse drug reactions, drug dependence and intoxications by overdose) and therapeutic failures (insufficient effects of medicines and morbidity due to untreated indication). The cost-of-illness analysis included all direct costs applying a health care perspective, using national statistics on costs. **RESULTS:** The expert panel estimated that 61±14% (mean ± SD) of all patients visiting health care suffered from drug-related morbidity, of which 29±8% suffered from new medical problems, 17±6% from therapeutic failures, and 14±7% from a combination of both types. Of patients with drug-related morbidity, 44±18% suffered from preventable drug-related morbidity. Participants estimated that 7-39% of patients with drug-related morbidity do not require further attention, but a majority requires health care resources due to the drug-related morbidity. The direct costs were calculated to EUR 575 (2009 value) per patient, which corresponds to an annual cost of EUR 4 billion to the Swedish health care system. The largest component in the COI of drug-related morbidity was hospitalizations, with 50% of the total cost. Advanced specialist care represented 20%, and prolonged hospital stay 11% of the resulting costs. **CONCLUSIONS:** Drug-related morbidity is perceived frequent and often preventable. The estimated health care costs for this morbidity are extensive, and comparable in magnitude to the cost of dispensed medicines in Sweden. Effective and cost-efficient methods to reduce the drug-related morbidity are needed.

PHP61

MODELING PHARMACEUTICAL COSTS IN PRIMARY HEALTH CARE ACCORDING TO CHRONIC CONDITIONS

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OBJECTIVES: Controlling pharmaceutical costs has been the subject of research and analysis in many studies in health economics which have shown that the chronic conditions of patients are an important factor. The present work models pharmaceutical expenditure by different health districts and gender according to the characteristics of chronic conditions. **METHODS:** An analysis was made of pharmaceutical expenditure between November 2008 and October 2009 of four health districts of the Autonomous Valencian Government, with an assigned population of 625,246. Those who had followed treatments for chronic conditions were identified associating the pharmaceutical groups (ATC codes) with 24 chronic conditions, according to electronic prescription data. Multivariate regression analysis was used, where the pharmaceutical expenditure in primary health care was explained through the gender, pharmaceutical co-payment status and the number of chronic conditions, varying from 1 to 8 or more. **RESULTS:** The percentage of patients with chronic conditions obtained was of 27.82%, who constituted 58.2% of the total pharmaceutical cost. Pharmaceutical co-payment status was excluded from the model due to its high correlation with the number of chronic conditions. The goodness of fit obtained for explaining the expenditure of the whole population was of 57.2%. The models obtained by health district explained between 56.5 and 60.6%, improving in the models obtained solely for the male population, where they reached 62% for one of the districts studied. Men's pharmaceutical expenditure was the 68.31% of women's. However, the number of chronic conditions has a greater impact on men's pharmaceutical expenditure than women's. **CONCLUSIONS:** Although for the whole population the proposed model explained the 57.2% of the pharmaceutical expenditure, differences can be observed between models obtained for each district or for gender. These models may be more suitable than the general model for cost management and establishing incentives for general practitioners in the different districts.

PHP62

ESTABLISH DRUGS OPTIMAL PURCHASE MODEL

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OBJECTIVES: Taipei Medical University Shuang-Ho Hospital officially opened on July 1, 2008. Due to limited revenue during the initial period, hospital emphasized more on cost control. With the great demand of medication from the growing numbers of outpatients visits and inpatients, pharmacy aim to establish an optimal purchase model to minimize drug inventory management cost. **METHODS:** Economic Order Quantity (EOQ) model were applied to find out the best quantity and frequency on medication purchase order. We analyzed the high-cost medications in which the top 50% of cumulative drug cost in year 2010, and intravenous antineoplastic drugs were excluded. **RESULTS:** The study evaluate drug cost, labor cost and inventory cost. Forty-six high-cost medications were selected to determine EOQ model in this study. The optimal frequency to order each drug estimated by EOQ model was three to ten times per month. The estimated cost of inventory management reduced substantially when order more frequently within 10 times a month. However, after considering the practicability in real practice, the order frequency was adjusted to one to four times per month. The best estimated quantity for each drug was also adjusted by previous fluctuation of purchase orders during 2010. Therefore, the estimated inventory management cost in year 2011 could reduce 500,000 to 700,000 NTD **CONCLUSIONS:** Our inventory management currently purchase drug twice a month. In order to optimize inventory turnover rate, without increasing pharmacists work loading and management cost, we recommend adjusting quantity and frequency of ordering medication based on our finding to achieve the minimal and rational cost on inventory management.

PHP63

SAVINGS ON PHARMACEUTICAL EXPENDITURE IN GREEK NHS HOSPITALS UNDER THE SHADOW OF THE INTERNATIONAL MONETARY FUND (IMF)

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Due to the financial crisis, Greece was forced by the International Monetary Fund and the European Community (Troika) to implement cost containment measures in the health care sector. **OBJECTIVES:** The objective of the study is to present the measures taken in order to control and reduce the pharmaceutical expenditure in all NHS hospitals and evaluate the respective savings emerging in 2010. **METHODS:** The data derive from the Ministry of Health and Social Solidarity (MoH) database, covering all NHS & IKA hospitals operating in the 7 Regional Health Authorities (RHA) of Greece. Data compare the NHS hospital pharmaceutical expenditure between 2009 and 2010. **RESULTS:** Numerous cost-containment measures have been gradually implemented in all NHS hospitals according to the IMF and MoH guidance, targeting at: 1)creation of NHS database network (esy.net); 2)transfer of the pharmaceutical pricing regulation from the Ministry of commerce to the MoH; 3)unification of the NHS electronic coding system, for ordering and prescribing of pharmaceuticals; 4)hospital packsize; 5)electronic patients files; and 6)increase in the use/penetration of generics & off patent medicines. Although the above measures are still not fully implemented, they reduced hospital pharmaceutical expenditure by 10.51%, from €1.466 million in 2009 to €1.312 million in 2010. At regional level, savings ranged from 8% in the 2nd RHA (covering Pireaus & islands) up to 16% in 6th RHA (Peloponnese & Western Greece). Moreover, in the 1st RHA covering the highest share of NHS hospitals of pharmaceutical expenditure was reduced by 15%. **CONCLUSIONS:** The new cost containment measures implemented in Greek NHS hospitals started presenting results by fulfilling the savings imposed by IMF & Troika. The same picture is presented in the overall HC sector, hospitals & social security funds. The goal of €350million savings by the NHS hospitals seems to be able to be achieved by the end of 2011.

PHP64

REORGANISATION OF HOSPITAL EMERGENCY SERVICES: A BUSINESS CASE FOR QUALITY IMPROVEMENT

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OBJECTIVES: In Switzerland, emergency care has no gatekeeping system and emergency wards are increasingly overcrowded by walk-in patients. This leads to inefficient use of spezialised resources. Treatment costs are paid by public sources and, beyond some co-payment, reimbursed by health care insurances via tariffs. Given the problems above, a public hospital (Stadtspital Waid; Zurich; catchment population 180'000 people) reorganised its emergency service in 2008. A nurse led triage system and a General Practitioner-led emergency service was implemented beside the conventional emergency ward. To better understand the impact, we assessed quality of service provision and total treatment costs. **METHODS:** From the public payer perspective, we compared annual treatment costs for ambulatory emergency care in 2007 with 2009. In a pre-post study, all consecutive ambulatory emergency patients were included during one month in each year. Treatment costs (CHF) were calculated (e.g. nursing time multiplied with wages) and extrapolated to one year. Waiting times and patient satisfaction were used as indicators for service quality. Clinical outcome was not directly measured. **RESULTS:** The annual number of ambulatory patients increased from n=10'440 (2007) to n=16'035 (2009). Service provision improved with reduced waiting times (mean: 120 min vs. 60 min), persistently high patient satisfaction and more efficient resource use (additional diagnostic testing: 71% vs. 56%). Comparison of the annual local budget spent for