Nonadherence (noncompliance) to drug therapy can result in increased rates of relapse, morbidity, and mortality. Its overall economic impact has been estimated at $8 billion annually in Canada, and $80 billion in the US, including both direct and indirect costs. **OBJECTIVES:** The purpose of this study was to estimate the economic burden of hospital admissions due to patient nonadherence in Canada from the viewpoint of the provincial ministries of health. **METHODS:** We estimated the overall burden in two steps, using a modeling approach. First, we estimated the impact of nonadherence on hospital admissions. We performed a random-effects meta-analysis of the published literature to derive an average rate of hospital admissions due to nonadherence. We then quantified the resources in monetary terms in Canadian dollars (CAD). We used utilization and costing data from Statistics Canada on hospitalizations. Various sensitivity analyses were performed with different costing sources for hospitalizations, such as the Ontario Case Cost Project and the Ontario Hospital Statistics. **RESULTS:** We included 15 studies on nonadherence related hospital admissions, with a total of 6,144 subjects, to derive an overall meta-analytic average admission rate of 5.4% (SE = 0.8%), and 5.2% (SE = 1.1%) for medication underuse. Applying an average length of stay of 10 days for 10,272 hospital separations per 100,000 population in Canada, we estimated the 5.4% assumed to be due to nonadherence to amount to CAD $1,018 million annually. Sensitivity analysis results ranged from CAD $678 million to CAD $1,633 million annually. **CONCLUSION:** Our results illustrate the extent of the economic burden of hospitalization due to nonadherence in Canada. Further studies are warranted for estimating overall resource use and productivity loss due to nonadherence.

**HEALTH EXPENDITURE FOR THE DURATION OF LAST YEAR OF LIFE IN TAIWAN**

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**OBJECTIVE:** The evidenced-based study tests the hypotheses (i) National Health Insurance Expenditure increases with closeness to death (ii) National Health Insurance Expenditure decreases with age. This study analysis age, sex and health expenditure differences before the day of death for one-year period during 1999 and 2000. **METHODS:** In Taiwan the National Health Insurance Program had covered 97% population. The claim data were obtained from Bureau of National Health Insurance (in 1999 and 2000), the vital registration data (in 2000) were from Department of Health in Taiwan. Use the vital registration ID number to merge the National Health Insurance data, 7 (18%) reported a change in CWC of >10%, and 15 reported no adjustment. The overall change in CWC was substantial: of those hospitals with confirmed data, the mean adjusted CWC was $4538 compared with an adjusted value of $2195. **CONCLUSIONS:** The large adjustment in CWC occurred in only a few hospitals, yet it substantially changed the overall CWC, which would serve as a standard value for economic studies. It is necessary to vali-
Abstracts

HEALTH POLICY—Healthcare Information Studies

OBJECTIVES: The goal of this study is to create a database of health websites originated from South East Europe (SEE), and determine the quality of information regarding the customer needs using the World Health Organization’s (WHO) standard. METHODS: The database, named pluspharma™, was constructed by an Internet search and an e-mail questionnaire. The quality of information was measured according to recommendations of WHO (a rating of 1 to 5). RESULTS: The database contains about 300 web addresses of useful sources of health and health business information. Of the six countries (Bosnia and Herzegovina, Bulgaria, Croatia, Yugoslavia, Macedonia, Romania), Romania showed the most (37 public health institutions and 26 public tools promoting health) Web health information sites. The most websites originated from the primary health care institutions, government body or pharmaceutical industry. Also, there is the numerous high quality health promotional website designed with specific task groups (example tobacco groups). Direct public communication is evident through about 60% of web sites. Websites of pharmaceutical industry and pharmacies marking with relatively high credit (3.89), compared with other health and service information’s (public and government health institution). The special task groups (usually evidenced as NGO) obtained high credit (4.74) of quality and valuable of Web information’s. CONCLUSIONS: Health-related websites from South East Europe are becoming good tools for health promotion in the SEE region.

HEALTH POLICY—Healthcare Study—Methodology Issues

THE CONTRIBUTION OF HEALTH ECONOMICS TO PORTFOLIO MANAGEMENT DECISIONS: A VACCINE INDUSTRY EXAMPLE
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The application of health economics within portfolio management is not yet widely researched. However, several studies assume a growing importance of the added value of health outcomes within early product portfolio prioritisation in the future. OBJECTIVES: As a first step, to review the current practise in portfolio management and the most common techniques/parameters used to aid internal decision-making. Secondly, to illustrate the potential impact of the “economic dimension” in strategic development decisions using a vaccine industry example. METHODS: A MEDLINE search using the phrases “health/pharmacoeconomics” and/or “portfolio management” or “early modelling” was conducted. This search was augmented by additional Internet searches using various MetaSearch engines. Fifteen papers that matched the selection criteria were obtained. A simple Microsoft EXCEL based portfolio assessment tool for vaccine candidates applying the McKinsey strategy port-