

**OBJECTIVES:** To estimate the daily cost of intensive care unit (ICU) stay in France using a microcosting methodology. **METHODS:** A multicentre prospective cost analysis study was carried out among 23 French ICUs randomly selected from the French National Hospital database stratified by hospital category (regional, university and private non profit). Each ICU enrolled 5 adult patients admitted from May to October, 2009, selected at random, with a simplified acute physiology score (SAPSII)  $\geq 15$  at admission and with at least 1 reanimation medical act. All healthcare resources used by each patient over a 24-hour period were recorded, as well as the time spent by all hospital staff involved in the patient's management. All resources identified were valued from a hospital perspective (reference year 2009) based on unit cost data provided by each centre. Bi-variant analyses were carried out to identify potential cost-drivers. **RESULTS:** A total of 104 patients were enrolled by 21 ICUs (14 polyvalent, 3 surgical and 4 medical) were included. The mean age of patients was 62.3 years (SD 14.9); 64% were male; 86% were mechanically ventilated and the median Sequential Organ Failure Assessment (SOFA) score was 6 (SD 4.3). The average daily cost of ICU per patient was €1,424 (SD €520). Staff time represented the largest component of this cost (43%) followed by overheads, capital, hotel and nutrition assigned to the ICU (22.9%). Medication and consumables used accounted for 18.6% of the total cost. The majority of the cost (59%) was patient-dependant. The two main patient-dependant factors associated with significantly higher costs were: a high SOFA score and being on continuous mechanical ventilation. **CONCLUSIONS:** This first French microcosting study in ICU demonstrates that the cost per day of ICU care is substantially depends on the patient's medical profile and mainly driven by labour components.

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#### THE LACK OF BIA METHODOLOGY IN THE CZECH REPUBLIC LEADS TO INAPPROPRIATE PUBLIC HEALTH INSURANCE BUDGETING

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**OBJECTIVES:** Budget impact analysis (BIA) is a tool used to predict and understand the potential financial impact of introducing a new health care intervention into a health care system that has finite financial resources. Czech laws only prescribe duty to attach BIAs to the applications for new drug reimbursements without specifying guidelines how to prepare BIA. We analyzed the differences between the BIA in the applications and the real expenditures of the public health insurance. **METHODS:** We have selected 3 applications of new drugs (romiplostin, lenalidomid, bevacizumab) submitted in year 2009 (or an established drug in new indication) and compared submitted BIA estimates for year 2010 with the real expenditures in the same year. We also compared the methods in the submitted BIAs with the Impact Analysis Guidelines published by Patented Medicine Prices Review Board (Canadian National Drug Reimbursement Authority) to identify potential reasons of differences. **RESULTS:** We found differences in the predicted number of patients, average cost of drug application and total impact on the public health insurance. **CONCLUSIONS:** The comparison with standard guidelines identified the key areas to be addressed in the future Czech legislative to improve the quality of submitted BIAs. The inaccuracies were mainly caused due to a) Lack of data sources and their transparency; b) Inaccurate or misapplied assumptions; c) Inappropriate choice of comparators; and d) Overall quality, e.g. false interpretation of referenced studies conclusions.

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#### EXPLORING DIFFERENT HRQOL MEASURES AS PREDICTORS OF FUTURE HEALTH CARE EXPENDITURES

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**OBJECTIVES:** To assess the relative ability of several health-related quality of life (HRQOL) measures to predict future health care expenditures. **METHODS:** Data from the Medical Expenditure Panel Survey (MEPS) for years 2003 (Panel 4, Round 2) and 2004 were used for study purposes and weighted in order to gain a population-level analysis. Applying the Model of Health Services Use, predisposing (age, gender, race, years of education, and marital status) and enabling (insurance type, employment status, family size, and annual household income) variables were combined with varying need variables (SF-12 PCS, SF-12 MCS, EQ-5D Index, EQ-5D VAS, single-item core questions of perceived physical and mental health status, or a combination thereof) and used to predict overall healthcare expenditures, one year after survey, in multivariate linear regression models. The individual R2 values were used for model comparison. **RESULTS:** The final dataset was composed of 9304 respondents, representing over 186 million US residents. The base model of only predisposing and enabling covariates resulted in an R2 value of 0.067. The model using both the SF-12 PCS and MCS values as need variables resulted in the highest R2 value of all models run: 0.094. Use of the SF-12 MCS or the single-item perceived mental health core item as need variables only marginally outperformed the base model, both resulting in R2 values of 0.069. The EQ-5D VAS and Index as well as the physical health perception core measure values were similar, ranging from 0.0821 to 0.0868. **CONCLUSIONS:** The combined use of the SF-12 MCS and PCS measures as need variables in the Model of Health Services Use performed better than the other HRQOL measures in the MEPS dataset in predicting future health care expenditures.

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#### CONVERGENT TENDENCIES IN BUDGET IMPACT ANALYSIS ACROSS EUROPE AND BEYOND: GERMANY - DON'T LOSE OUT ON THE "ZEITGEIST"!

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**OBJECTIVES:** On January 1, 2011, the rapid benefit assessment (RPA) as basis for central price regulations was introduced for new drugs in Germany. It requires the pharmaceutical manufacturer to submit a value dossier. The objective was to investigate converging trends in budget impact analysis (BIA) requirements in selected countries and to compare them to the German RPA. **METHODS:** We conducted a systematic review of national guidelines on BIA requirements for the pricing and reimbursement process of pharmaceuticals in 14 countries across the western world (Europe, North America, Israel). Where needed informal stakeholder interviews were used to supplement lacking information. The information was extracted and evaluated based on 10 characteristics obtained from the "ISPOR Principles of Good Research Practice for Budget Impact Analysis" (Mauskopf et al. 2007). **RESULTS:** All of the investigated countries except for Germany, Scotland and Norway consider the direct medical budget impact of new pharmaceuticals in their reimbursement decision making. In Germany, only the maximum annual direct intervention costs have to be stated. Although Norway and Scotland request no BIA from a payer's perspective the drug's impact on the change in medical resource consumption is analyzed as part of the pharmacoeconomic and comparative effectiveness analyses. 8 countries demand a self-contained BIA complementary to the broader health economic evaluation, while 3 countries deal with financial consequences as part of the economic evaluation. In all countries except for Germany economic consequences for the healthcare budget have to be presented for at least 2-5 years on an annual basis to capture medium to long term savings and expenditures associated with changes in the medical resource utilization following a drug's availability in the market. **CONCLUSIONS:** All investigated countries except Germany consider changes in the resource consumption and their financial consequences (even for a medium term period) for decision making.

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#### WHAT ARE THE RESEARCH PRIORITIES IN THE SPANISH NATIONAL HEALTH SYSTEM? A COMPARISON OF ECONOMIC EVALUATIONS OF HEALTH CARE INTERVENTIONS AND PUBLIC-FUNDED RESEARCH

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**OBJECTIVES:** The efficient use of resources requires explicit criteria for setting health care research priorities. We assessed whether economic evaluations of healthcare interventions are directed to priority diseases in the allocation of public-funded research in the Spanish National Health System. **METHODS:** We analyzed data from a systematic review of economic evaluations performed in Spain (period 1983-2008). Reports were grouped according to the source of funding. We included a representative sample of public funds allocated to research projects (2006/2007 calls of the Instituto de Salud Carlos III, Spanish Ministry of Science and Innovation). Both economic evaluations and research projects were classified according to the main disease causes, following the classification proposed by the World Health Organization in its Global Burden of Disease study. We calculated Spearman correlation coefficients ( $r$ ) between the public funds and economic evaluations. **RESULTS:** A total of 1410 research projects (equivalent to €125.6 million) and 477 economic evaluations were identified and could be categorized in 20 groups and 40 specific causes of diseases. For major groups ( $n=20$ ), the associations were: total economic evaluations ( $r=0.80$ ,  $p<0.001$ ), economic evaluations funded by for-profit organizations ( $r=0.77$ ,  $p<0.001$ ) and those funded by nonprofit organizations ( $r=0.85$ ,  $p<0.001$ ). For specific disease-causes ( $n=40$ ): total economic evaluations ( $r=0.52$ ,  $p=0.001$ ), economic evaluations funded by for-profit organizations ( $r=0.38$ ,  $p=0.016$ ) and funded by nonprofit agencies ( $r=0.61$ ,  $p<0.001$ ). **CONCLUSIONS:** The distribution of priorities is similar between economic evaluations and public research funds allocated to specific diseases. However, the optimal level of these distributions could be determined with additional analyses on the impact of research results in reducing the burden of disease in the population.

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#### WHERE A CHEAP MEDICINE IS NOT THE SAME AS A GENERIC MEDICINE: THE BELGIAN CASE

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**OBJECTIVES:** The aim of this study is to describe the experience with the Belgian policy that obliges physicians to prescribe minimum quota of cheap medicines and to document the outcomes of this policy using publicly available data. **METHODS:** Data were obtained from yearly feedback reports of the policy on the website of the Belgian third-party payer (RIZIV/INAMI) which were sent to all physicians. Data were derived from Farmanet, a database where all data of prescriptions of reimbursed medicines from all physicians in Belgium are collected. **RESULTS:** All groups of general practitioners, specialists and dentists reached their minimum percentages every year from 2006 until 2009. The percentage of cheap medicines (in DDD) increased from 22.9% in January 2005 to 44.2% of all prescribed medicines in ambulatory care in December 2009. The percentage of generic medicines increased from 12.10% in 2004 to 24.03% of all prescribed medicines in ambulatory care in 2008. When a physician prescribed a cheap medicine, this was an original medicine whose price had dropped to the reference price level in 41.5% of cases in August 2009. **CONCLUSIONS:** The policy of prescribing quota for cheap medicines was not only associated with increased prescribing of generic medicines during 2004-2008, but also increased prescribing of original medicines whose price had dropped to the reference price level. The potential for prescribing generic medicines has not