OBJECTIVES: Turkish health care system has developed in terms of quality, access, equity and efficiency with the introduction of a number of reforms under "Health Transformation Program" since 2003. However, these have created significant financial burden to the government. In order to contain expenditures, avoid over-use, misuse and abuse; government has implemented certain cost sharing tools. Our objective is to define how co-payment mechanism has affected patients' purchasing behavior regarding OTC-type products. **METHODS:** Regulations and reports published by Ministry of Health and Social Security Institution, "Health Systems in Transition Turkey 2011" and "IMS Market Prognosis 2012-2016" reports are examined. **RESULTS:** In Turkey, family physicians do not act like gatekeepers since a formal referral system does not exist. Therefore, patients could directly apply to secondary/tertiary health care services without co-pay. At secondary/tertiary health care levels, co-payment rate is 5 TL and 12 TL for outpatient care in public and private hospitals respectively, 3 TL for prescription fee and extra 1 TL for each product exceeding 3 products per prescription. All active workers pay 20% while retirees pay 10% of total amount of the prescriptions as co-pay. Patients with chronic conditions requiring medical report are exempt from co-pay. Considering different co-payment rates and number of visits/prescriptions recorded in hospitals, it is calculated that patients paid approximately 3 billion TL in total outpatient care as co-payment in 2012. **CONCLUSIONS:** Minimum 9 TL in total is required as a co-payment for outpatient care and prescription, if patient visits a public hospital. Therefore, for products with a lower price than 10 TL, patients rather go directly to pharmacies. This behavioral change of out-of-pocket payments might be explained by improved purchasing power and increased co-pay rates.

PHP2

METHODOLOGICAL CHALLENGES IN MULTI-CRITERIA DECISION ANALYSIS (MCDA) FOR HEALTH POLICY DECISION-MAKING: A SYSTEMATIC REVIEW

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OBJECTIVES: Decision making about health technologies from research and development to reimbursement is affected by heterogeneous opinion and criteria of participating stakeholders. There is a lack of systematic consideration of stakeholders' preferences in current health policy. Multi-criteria decision analysis (MCDA) offers a solution to take preferences into account. This study gives an overview about the applications of MCDA methods in health economic decision-making. **METHODS:** A systematic review of the health care literature was performed to identify original research articles. Using predefined categories, data was systematically extracted for the type of policy applications, MCDA methodology, criteria used and how they were defined. **RESULTS:** Twenty-one studies were included in the analysis. 12 studies (67%) used indirect approaches and nine studies (43%) used direct MCDA approaches. Four studies (19%) focused on technologies in the early innovation process. The majority of 17 studies (81%) examined a technology on the level of reimbursement decision. Eight studies (38%) resulted into implementation, which means that an official committee considered the MCDA results. Other studies were conducted in an explorative manner. MCDA decision criteria used were obtained from literature research and context-specific studies, expert opinions, and group discussions. The number of criteria ranged from three up to 15. The most prominent criteria described health outcomes (71%), disease impact (62%), and implementation of the intervention (38%). **CONCLUSIONS:** MCDA is used at different levels of medical innovation and can increase transparency for involved stakeholders by explicitly structuring decision criteria. Further research is needed to understand existing variability of the number of criteria used and ensure that models are robust regarding potential criteria overlaps, performance scales and operationalizability aligned with evidence needs.

PHP3

SUPPLEMENTARY HEALTH INSURANCE IN TURKEY

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OBJECTIVES: In Turkey, almost everyone is covered by General Health Insurance Scheme (GHIS) under Social Security Institution (SSI). GHIS provides a Basic Benefit Package (BBP) for patients to benefit from both public and private health care providers contracted with SSI. Patients are obliged to pay certain level co-pays for extra services as defined in the regulation. Besides GHIS, patients could benefit from private health insurances(PHI) by paying relatively high level of premiums for different types of PHI packages. Supplementary Health Insurance(SHI) law has been enacted in June 2012 and patients started to benefit from SHI by paying relatively lower premiums for health care services that are not covered or partially covered by BBP. The objective is to evaluate the significance and potential of SHI in Turkey. **METHODS:** Regulations of SSI, OECD publications, International Investors Association's Turkey Report and database of Insurance Association of Turkey are examined. **RESULTS:** Number of private hospitals has increased by 50% over 5 years and reached out 500 by 2012. Parallel with this growth, PHI sector market share has also increased. By 2012, number of people covered by PHI has reached out more than 2 million and the PHI market is expected to reach nearly USD 2 billion in 2015. Meanwhile, approximately 20 thousand people has covered by SHI since November 2012 and SHI is expected to reach 5 million people next 5 years. **CONCLUSIONS:** Public health care expenditure is continuously rising due to increased health demand, increased coverage and demographic changes. In order to assure a financially sustainable health care system, PHI could be an option and create source of funding for the health care expenditure. In this context, SHI will reduce the pressure on public health budget, create an area of growth for the private health insurance sector, allowing health care providers supplying both public and private health care to become more effective.

PHP4

THE ROLE OF COMMUNICATION AND HEALTH LITERACY ON PATIENT SAFETY IN PUBLIC PHARMACIES IN THE REPUBLIC OF SRPSKA

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Health literacy is the skill (social and cognitive) that determines the motivation and ability of the person to receive, understand and use information in order to improve and maintain good health. Communication between patients and pharmacist is essential for optimal patient safety.**OBJECTIVES:** To highlight the importance and present the results of conducted research and to give recommendations for improving the health literacy among patients and pharmacists' communication skills. **METHODS:** The study was conducted in June 2013 in 5 selected branches of pharmacy-chain "Zdravlje Pharm" in Bijeljina, Republic of Srpska, Bosnia and Herzegovina. The sample consisted of 219 patients selected randomly, of whom 195 accepted the survey, and 24 rejected to participate. The instrument was previously validated and adjusted questionnaire of Pharmacy Zrenjanin, Serbia, related to patient satisfaction with pharmacy services, but also conceived needs of the thesis, with 32 close-type questions, except one. Health literacy of patients and communication with pharmacists were followed. The analysis was done in Excel, and the results are given in tables and graphs. **RESULTS:** About 90% of patients reported that pharmacists give clear information during consultations and the advices helped them. A total of 65% reported to easily remember the information from the pharmacists, which shows a good level of patient health literacy; but the rest can have uncertain outcomes of the therapy and be exposed to greater safety risks. **CONCLUSIONS:** There is a place for improvement of aspects which can contribute to better patient safety. That can be achieved by applying certification standards throughout the health care system in the Republic of Srpska.

PHP5

ARE THE BIOTECHNOLOGY AND PHARMACEUTICAL SECTORS DEFENSIVE RELATIVE TO THE S&P 500?

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OBJECTIVES: The health care sector is widely regarded as a defensive play in the stock market. We analyzed the performance of a pharmaceutical and a biotechnology index from March 2000 through April 2013 alongside the S&P 500. **METHODS:** We categorized the S&P 500 from March 2000 through April 2013 into bull and bear markets. During this time there were three bull markets and three bear markets. Bull and bear markets were defined as changes in the S&P 500 of more than 20%. We followed the AMEX Pharmaceutical (^DRG) and Biotechnology (^BTK) Indices to represent their sectors. We compared the returns of the sectors with the overall market and also calculated their correlated volatility (beta) with the S&P 500. **RESULTS:** For the entire analysis period, the S&P 500 returned 4.59% while ^DRG and ^BTK returned 25.43% and 252.83%, respectively. During the bear markets, the S&P 500 lost at an average annual rate of 27.17%, while ^DRG and ^BTK lost at annual rates of 12.16% and 21.99%, respectively. Though ^DRG performed best during the bear markets, it was a laggard in the bull market gaining 8.15% annually, while the S&P 500 and ^BTK had 22.04% and 31.97% annual returns, respectively. The overall beta during our analysis period was 0.63 for ^DRG and 1.07 for ^BTK. **CONCLUSIONS:** Both the AMEX Pharmaceutical and Biotechnology Indices fell at a lesser rate than the S&P 500 during bear markets. The Pharmaceutical Index may be the more defensive play as it lost at an average annual rate of more than two times less than the S&P 500. However, the Biotechnology Index gained almost four times more than the Pharmaceutical Index in bull markets and also outperformed the S&P 500 by almost 10 percentage points during bull markets.

HEALTH CARE USE & POLICY STUDIES – Diagnosis Related Group

PHP6

COMPARISON OF DEVELOPMENT DIAGNOSIS RELATED GROUPS BASE RATE IN HUNGARY AND GERMANY

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OBJECTIVES: Diagnosis Related Groups (DRG) based methods was introduced for acute hospital care reimbursement in 1993 in Hungary (H-DRG) and in 2003 in Germany (G-DRG). The aim of our study is to compare the development of DRG base rate in Germany and Hungary. **METHODS:** The Hungarian data derive from the financial database of the Hungarian National Health Insurance Fund Administration (NHIFA), the only health care financing agency in Hungary. German data derive from German DRG Institute. We analyzed how the uniform, nationwide DRG base rate has been introduced in both countries. **RESULTS:** The German DRG system consists of 1200 disease groups, while the Hungarian contains ca. 736 groups. The German DRG base rate was hospital specific between 2003-2004. From 2005 to 2009 hospital-specific base rates converged to a state-wide base rate. From 2010 to 2014, the state-wide base rates should converge to a nationwide base rate. The German hospital specific base rate varied between EUR2200-3200. In Hungary, a hospital groups specific base rate was applied for 16 groups of hospitals between 1993-1998 with a gradual converge of base rates. Middle level (county or regional) base rate was not introduced in Hungary. The nationwide uniform DRG base rate was set up in 1998 in Hungary. The Hungarian uniform DRG base rate was EUR518 in 2012. **CONCLUSIONS:** Both Hungary and Germany applied a gradual implementation of uniform DRG base rate. Germany took three steps (hospital, Lander and nationwide), while Hungary took two steps (hospital group, nationwide) in reaching the nationwide uniform DRG base rate.