a prescription for drugs during an out-patient visit and 12.04% reported having paid for the medicine. The total out-of-pocket expenditure in 2010 was USD$134,937. The difference in mean expenditure was statistically significant showing higher expenditure among women compared to men (p-value = 0.0001). Statistical differences were also found across age groups (F-test =16.46); the highest mean expenditure was observed in persons aged 60 years and older, followed by individuals in the age group 51-60 and 0-9 years old. Results from the logistic regression model show that younger men and women are more likely than those in the middle-aged groups to spend on medicine. People living in regions of very high socio-economic marginality spend more on drugs than their better off counterparts. Individuals registered at their family medical care unit are less likely to make expenditures for drugs than the non-registered. Illness increases the probability of drug spending by 0.065. **CONCLUSIONS:** The out-of-pocket drug expenditure among ambulatory care users varies according to social, economic and demographic factors at the individual and regional levels.

**PHP39**

**THE "WEIGHT" OF ORPHAN DRUGS IN THE EUROPEAN PHARMACEUTICAL POLICY. A FOCUS ON THE EXPENDITURE AND THE UTILIZATION OF ORPHAN DRUGS IN FIVE EUROPEAN UNION COUNTRIES**

Muscolo LAA, Deriu D, Sammarco A, Siviero PD, Pani L
*Italian Medicines Agency, Rome, Italy*

**OBJECTIVES:** One of the most challenging problems for pharmaceutical policy is how to pay for very expensive new drugs for rare diseases, known as "Orphan drugs" (ODs). Aims of this work were to compare the expenditure and utilization of ODs among five European Union Countries (France, Germany, Italy, Spain, UK) and identify the ATC group with the major impact on Italian ODs expenditure and utilization. **METHODS:** European database from IMS and the AIFA internal database were consulted for the period 2009-2010 according to the ODs approved by European Medicines Agency. **RESULTS:** In all 5EU both utilization and expenditure increased in the year 2010 compared to 2009 ranging respectively around 13%-28% for the expenditure and around 7%-17% for the utilization. Italy is the third after Germany (917 Ml €) and France (828 Ml €) for the expenditure and the second after Germany (22 Ml standard units) for utilization. 80% of the ODs authorised by EMA is available in Italy, the remaining 20% is not accessible (marketing reasons). During 2010 Italian expenditure for ODs amounted to 5,5 Ml €, with an increase by 19% compared to 2009. According to the utilization, the value of ODs amounted to 20 Ml standard units, with an increase of 15% compared to 2009. "L" ATC code (antineoplastic) represents the highest expenditure (63% of total ODs) and utilization (60% of total ODs). Within "L" ATC group, Imatinib is the most used molecule (146 Ml € and 8,5 Ml standard units) with an average cost/patient/year of 38,500€ (assuming weight 70kg) ranging from 5,700€ (Anagrelide) and 44,500€ (Nilotinib). **CONCLUSIONS:** Results suggest that ODs expenditure and utilization is rapidly growing up, particularly for some ATC groups. The increase of ODs' utilization is a common challenge among EU countries in order to guarantee a balance between patient access and budget sustainability.

**PHP40**

**HOSPITAL SPENDING AND INPATIENT MORTALITY**

Romley J[1], Jena A[2], Goldman D[1]
[1]*University of Southern California, Los Angeles, CA, USA,* [2]*Massachusetts General Hospital, Boston, MA, USA*

**OBJECTIVES:** Evidence shows that high Medicare spending is not associated with better health outcomes at a regional level and that high spending in hospitals is not associated with better process quality. The relationship between hospital spending and inpatient mortality is less well understood. We seek to determine the association between hospital spending and risk-adjusted inpatient mortality. **METHODS:** Retrospective cohort study. Setting: Database of discharge records from 1999 to 2008 for 208 California hospitals included in The Dartmouth Atlas of Health Care. Patients: 2,545,352 patients hospitalized during 1999 to 2008 with 1 of 6 major medical conditions. Measurements: Inpatient mortality rates among patients admitted to hospitals with varying levels of end-of-life hospital spending. **RESULTS:** For each of 6 diagnoses at admission—acute myocardial infarction, congestive heart failure, acute stroke, gastrointestinal hemorrhage, hip fracture, and pneumonia—patient admission tohigher-spending hospitals was associated with lower risk-adjusted inpatient mortality. During 1999 to 2003, for example, patients admitted with acute myocardial infarction to California hospitals in the highest quintile of hospital spending had lower inpatient mortality than did those admitted to hospitals in the lowest quintile (odds ratio, 0.862 [95% CI, 0.742 to 0.983]). Predicted inpatient deaths would increase by 1831 if all patients admitted with acute myocardial infarction were cared for in hospitals in the lowest quintile of spending rather than the highest. The association be- tween hospital spending and inpatient mortality did not vary by region or hospital size. Limitation: Unobserved predictors of mortality create uncertainty about whether greater inpatient hospital spending leads to lower inpatient mortality. **CONCLUSIONS:** Hospitals that spend more have lower inpatient mor- tality for 6 common medical conditions.

**PHP41**

**ONE-YEAR ASSESSMENT OF JOINT PROCUREMENT OF PHARMACEUTICALS IN THE PUBLIC HEALTH SECTOR IN JORDAN**

Alabbadi I[1], Qawwas A[2], Jaafreh M[2], Abosamen T[3], Saket M[4]
[1]*University of Jordan, Amman, Jordan,* [2]*Tenders section, Amman, Jordan,* [3]*High Health Council, Amman, Jordan,* [4]*Joint Procurement Department, Amman, Jordan*

**OBJECTIVES:** The aim of this research was to assess the first year of purchasing pharmaceuticals in the public health sector in Jordan through the joint procurement process for the 4 participating parties in comparison with purchasing pharmaceuticals independently before the institution of joint procurement. **METHODS:** The first tender under the joint procurement process was issued in 2007 for antibiotics, antiHIY medications, and antituberculosis agents, which represent 15% of the annual pharmaceutical publicsector purchases in Jordan. A research committee solicited lists of purchased quantities and final purchase prices of these pharmaceuticals obtained in 2006 by each participating group and in 2007 through the joint procurement process. The quantity-comparison method was used to compare the costs of drugs purchased in 2006 and 2007, and estimated cost savings were calculated for each product for each party for 2006 and 2007 under the assumption that the same quantities purchased by each participating party in 2006 would be purchased through joint procurement (prices of 2007). **RESULTS:** Purchasing through the joint procurement process achieved an estimated savings of 2.4%. This savings increased to 8.9% after excluding 1 item (a cephalosporin), the raw material price of which increased markedly in 2007 compared with 2006 because of an international shortage of raw materials **CONCLUSIONS:** Based on these initial findings, applying a joint procurement system for pharmaceuticals in the public health sector in Jordan has potential to reduce expenditures for the purchase of medicines and provide treatment continuously throughout the year.

**PHP42**

**MEDICATION ADHERENCE AND MEDICAL COST OFFSETS: A REVIEW OF THE LITERATURE**

Foley K[1], Carls G[2], Roberto P[3]
[1]*Thomson Reuters, Cambridge, MA, USA,* [2]*Thomson Reuters, Ann Arbor, MI, USA,* [3]*PhRMA, Washington, DC, USA*

**OBJECTIVES:** When patients take medications as prescribed, they are more likely to achieve clinical goals and reduce their use of otherwise avoidable healthcare services. A growing literature suggests that good medication adherence can also reduce healthcare costs for these patients. Our objective was to review the literature to determine for which diseases the evidence for cost offsets was strongest, and identify why some studies show no cost offsets. **METHODS:** We conducted a literature review on medical cost offsets associated with medication adherence. Key words searched were ("medication adherence" OR "medication compliance") AND ("medical care costs" OR "cost savings" OR "cost offset" OR "healthcare costs"). We limited the search to English language articles published between 1/1/2005-3/31/2010. Studies were included if they reported the findings of original research. **RESULTS:** We identified 573 article titles, of which 100 met the inclusion criteria. Overall, 44 studies directly measured both medication adherence and costs, and of them 81% found statistically significant reductions in costs associated with better adherence. The range of cost offsets varied by disease, with the greatest offsets noted for congestive heart failure (costs were $4000-$8000 less per year for patients with a medication possession ratio [MPR] >80%), diabetes (range was $3700-$5700 less for those with an MPR>80%), and hypertension (range was $549-$3900 less for those with an MPR>80%). Characteristics of studies where findings were cost neutral among adherent patients included: conditions with high medication costs such as multiple sclerosis, and diseases where spending was shifted from medical care to prescription drugs without increasing total costs such as depression and asthma. **CONCLUSIONS:** Many studies confirm the clinical benefits of medications and their ability to reduce utilization. A strong body of new studies now link those benefits to cost-offsets. Even when cost-offsets are not found, medications tend to be cost neutral.

**PHP43**

**FINANCING HEALTH CARE IN NEPAL**

Shrestha DL
*Chhatrapati Free Clinic (Hospital), Kathmandu, Nepal*

**OBJECTIVES:** To review and assess the current practices of financing health care in Nepal, and draw possible alternative strategies for the payment along with delivery of efficient and equitable health care. **METHODS:** Literatures review on the financing mechanisms and their compatibility to deliver efficient health care, globally, and current practices in Nepal. **RESULTS:** Nepal's total expenditure on health (TEH) is still below 10 % of the gross domestic product, albeit marked improvements in health outcomes in the last 10 years. About 62% and 17% of the total population meet their health expenses by out of pocket (OOP) payment and government funded social health insurance (covering civil servants and maternal health services), respectively; remaining are supported donor funding. Whilst, 0.4% of private expenditure on health is supported by prepayment (private) plans, a huge population remain uncovered with any protective plans. **CONCLUSIONS:** As no country has a single mechanism to finance health care, the challenge of choosing unsurpassed payment module is almost imputable. With large proportion of TEH dominated by OOP payment, it has huge implications in efficiency and equity of health care services at different levels. As improvements in national economy and large urbanization might be a long term plan, increasing reliability and dependability on tax financing can be an immediate measure to reduce dependence on OOP payment. Scrutinizing the community health insurance programs and their promotion, along with close monitoring of successful social health insurance in developed countries may be judicious to strengthen equitable health care. Weakening governance, fragile political leadership and paucity in honesty among the stakeholders has propelled social health insurance far beyond the reach for the Nepalese population. Moreover, there is an utmost need to restructure available resources from high- cost, low-impact interventions to low-cost, high-impact essential health care services, while improving effectiveness and efficiency.