

the chi-square test **CONCLUSIONS:** Despite the fact that clusters are generated from different approaches and have no similar characteristics, a plausible correspondence seems to develop between them. Thus, our investigations may help in identifying countless promising market strategies facilitating the access of new drugs according to UK regional standards.

PHS82

DETERMINANTS OF HEALTH SERVICE UTILIZATION IN URBAN PAKISTAN

Jahangeer RA

Pakistan Institute of Development Economics (PIDE), Islamabad, Pakistan

OBJECTIVES: To examine inequalities in health service utilisation in urban Pakistan. This analysis investigates how household economic status, duration of illness and distance to a provider influence health service utilisation in Pakistan. **METHODS:** The study uses data from the Pakistan Socioeconomic Survey (PSES) and analysis is based on 1,407 individuals who belong to 855 urban households. Health care providers are classified into public hospitals, other public providers, private doctors/clinics and other private providers. Household economic status is measured by a wealth index constructed using data from the survey on ownership of durable assets and housing conditions. Principal components analysis (PCA) is used to construct the index. Multinomial logistic regression is used to investigate the effects of various characteristics of individuals/households on health service utilisation in Pakistan. **RESULTS:** Overall, 79.6% of those reporting any health complaint sought health care. A large gap in health service utilisation exists between poorest patients (60.5%) and richest patients (84.9%). Almost three-fourth patients visited private providers; 57.3% visited private doctors/clinics and 15.7% visited other private providers. The remaining one-fourth patients visited public providers (19.7% visited public hospitals and 7.2% other public providers). Multinomial logistic regression reveals that poorest patients are significantly more likely ($p < 0.10$) to visit public hospitals whereas patients of poorest, poor, middle and rich households are significantly less likely to visit private doctors/clinics compared to members of richest households controlling for other factors such as education, occupation, duration of illness, distance to a provider and residence. An additional day of illness significantly ($p < 0.01$) increases the likelihood of visiting public hospitals and private doctors/clinics. The distance travelled to visit a provider shows a significant positive ($p < 0.01$) and negative association with visiting public hospitals and other private providers respectively. **CONCLUSIONS:** Large gaps exist in health service utilization in urban Pakistan.

PHS83

POTENTIAL TIME SAVINGS WITH RITUXIMAB SUBCUTANEOUS (SC) INJECTION VERSUS RITUXIMAB INTRAVENOUS (IV) INFUSION: RESULTS FROM INTERVIEWS AT 13 EUROPEAN SITES AS PART OF A TIME AND MOTION STUDY (T&M)

De Cock E¹, Carella AM², Tao S³, Wiesner C⁴

¹United BioSource Corporation, Barcelona, Spain, ²KRCSS AOU, San Martino, Italy, ³United BioSource Corporation, Dorval, QC, Canada, ⁴F. Hoffmann-La Roche Ltd., Basel, Switzerland

OBJECTIVES: Generate preliminary estimates of active health care professional (HCP) time required /potential time and cost savings between SC vs. IV rituximab processes at the care unit and pharmacy in sites participating in T&M sub-study to MO25455 trial (ClinicalTrials.gov identifier NCT01461928). **METHODS:** As part of an ongoing multi-country, multi-centre, prospective, T&M study run as a sub-study to MO25455, one interview with a nurse and pharmacy member was conducted per site, using a structured questionnaire to elicit practice pattern flow and time estimates for rituximab-related tasks for both IV and SC processes. Estimates of SC injection time were obtained from the Spark-Thera Phase Ib trial (BP22333) (in the absence of staff-elicited time estimates). Estimated total time/cost was calculated as the sum of individual task times/costs. UK salary costs were assumed. Results were pooled and descriptive statistics were calculated. **RESULTS:** Median total HCP time for IV vs. SC processes was estimated at 57 and 26 minutes, respectively, equivalent to approximately £79 and £37 (estimated 54% reduction with SC). For IV, process time is taken up by premedication (27%) and rituximab pharmacy reconstitution (18%), with the remaining 55% distributed across other care unit tasks. For SC, premedication (57%), injection (24%) and rituximab pharmacy dispensing (19%) constitute the whole process. Potential time savings are expected because of avoiding tasks related mainly to infusion line (dis)connection, infusion initiation/dose escalations, and IV pharmacy reconstitution, which is only partially being replaced by SC injection. **CONCLUSIONS:** A switch from IV to SC rituximab potentially results in important care unit and pharmacy time savings to be reinvested in improving overall patient care. Patients could potentially be moved out of the chemotherapy care unit to receive SC administration in other settings and free up valuable chair time, thereby increasing the unit's throughput and overall efficiency. Data of the T&M study is awaited.

PHS84

ANALYZING PHARMACEUTICAL EXPENDITURE IN GREECE: UNWINDING ARIADNE'S CLUE

Siskou O¹, Kaitelidou D², Schneider M³, Kalogeropoulou M¹, Tsavalias K¹, Passaloglou S⁴, Kouli E¹, Galanis P¹, Kontozamanis V¹, Liaropoulos L¹

¹National and Kapodistrian University of Athens, Athens, Greece, ²National and Kapodistrian University of Athens, Athens, Greece, ³BASYS, Augsburg, Germany, ⁴Novartis Hellas, Metamorfofi Athens, Greece

OBJECTIVES: To compile pharmaceutical expenditure in Greece by financing scheme and type of provider, in order to investigate areas that cost containment measures could be monitored effectively. **METHODS:** The method used for the estimation of pharmaceutical expenditure is based on the System of Health Accounts 2011 set by OECD, EUROSTAT, and WHO, taking into consideration the

national needs for data reporting both in outpatient and inpatient settings. Data were reported by type of provider, including hospital pharmacies, Social Security Funds (SSF) pharmacies, private pharmacies and local authorities social pharmacies as well as by financing schemes, including SSFs, private payments and NHS payments. Additionally, pharmaceutical data are analysed using the new international classification of Factors of Health Care Provision. Estimates were obtained for 2009 & 2010. **RESULTS:** Total pharmaceutical expenditure-TPE (outpatient & inpatient) in Greece, decreased by 9.3% between 2009 & 2010. Pharmaceutical outpatient expenditure covered by SSF was estimated at €5.1 bl for 2009 (2.2% of GDP) and €4.46 bl for 2010 (2% of GDP). Less than 8% of outpatient pharmaceutical expenses covered by SSF, concern pharmaceuticals dispensed by NHS & SSF pharmacies. These public pharmacies dispense expensive pharmaceuticals (for serious and chronic diseases) at significantly lower prices than private pharmacies. Inpatient pharmaceutical expenses decreased by 9.1% (€1.2 bl in 2009 and €1.1 bl in 2010), representing 15.3% of total pharmaceutical expenditures (outpatient and inpatient), a proportion similar to the mean of other EU countries estimated at about 17%. Measures to control the volume of consumption were recently introduced via e-prescribing and the set up of controlling mechanisms. **CONCLUSIONS:** Reductions in pharmaceutical expenditure are correlated mainly to price reductions and less to a decrease in volume of consumption. Measures concerning pharmaceutical cost containment have to be reorganised not only concerning price and volume but also concerning new-innovative ways of distributing pharmaceuticals.

PHS85

THE COST OF PUBLIC CANCER PREVENTION IN ALBERTA

Jacobs P¹, Moffatt J²

¹Institute of Health Economics, Edmonton, AB, Canada, ²Institute of Health Economics, Edmonton, AB, Canada

OBJECTIVES: We provide an estimate of public expenditures on cancer prevention in Alberta. Our estimate covers all three levels of government – federal, provincial, and municipal. **METHODS:** Public cancer prevention is a government activity whose purpose is to expressly reduce the future incidence of cancer. As part of a wider initiative, we conducted a survey of ministries, in search of all programs whose express purpose was to promote health and prevent illness. We searched web pages, ministry annual reports and federal and provincial budget papers. We collected data on program type, type of intervention, and program cost. We then verified the results with each ministry. We sorted the data by risk factors, and selected those risk factors that were related to cancer. **RESULTS:** Expenditures for those risk factors that are related to cancer are shown in Table 1. In total expenditures on these risk factors were \$206. Of this, about two-thirds were expenditures that were incurred by non-health, provincial ministries. The risk factor with the highest preventive expenditures was environmental health. **CONCLUSIONS:** In Alberta, all levels of government spent \$206 per person on risk factors that can prevent cancer, mostly in the long run. Without a cost – effectiveness analysis, we cannot say that this amount is too much or too little. However with this data, and a cost effectiveness analysis, we can in fact say whether we are spending too much or too little.

PHS86

A POPULATION-BASED STUDY OF THE RESOURCE UTILIZATION AND COSTS OF TREATING RESECTABLE NON-SMALL CELL LUNG CANCER

Mahar AL, Johnson A

Queen's University, Kingston, ON, Canada

OBJECTIVES: To describe resource utilization and costs associated with treating surgically managed non-small-cell lung cancer (NSCLC) patients in Ontario, Canada; to compare characteristics and average costs of patients treated with adjuvant therapy to surgery alone; and to compare resource utilization and costs across health care regions. **METHODS:** A population-based retrospective cohort study of surgically resected NSCLC patients, diagnosed from Ontario Cancer Registry between 2004 and 2006, was identified using administrative health care data. Patients were followed for four years from date of surgery (to represent the cohort immediately affected by the change in clinical practice -- recommended adjuvant cisplatin-based treatment). Cost estimates (2001 CAN dollars) were derived from administrative data and the literature. **RESULTS:** Patients who received adjuvant chemotherapy in addition to surgery were younger and had a less severe burden of co-morbid disease than patients treated with surgery alone ($p < 0.001$). Geographic variation was found with respect to age, Charlson score, and socioeconomic status. Rates of chemotherapy, the proportion of patients who received any imaging scans, hospitalizations, specialist visits, emergency room visits, mean number of imaging scans, general physician visits, and blood transfusions all varied significantly among geographic regions. The average cost of a patient treated with surgery and adjuvant chemotherapy was \$36,617.70 and was significantly higher than the average cost of a patient treated with surgery alone (\$29,071.60) ($p < 0.0001$). Among regions, the average cost of patients treated with chemotherapy was similar, while the average cost of patients treated with surgery alone varied significantly ($p = 0.0008$). **CONCLUSIONS:** Differences exist in the average cost of treating a resectable NSCLC patient with surgery and adjuvant chemotherapy in comparison with surgery alone. This phase IV population-based study demonstrates a similar cost per patient as evidenced in the randomized controlled trials. Understanding why these patients incur higher average costs is important with respect to delivering cost-effective treatment.

PHS87

COST OF DIABETES IN INSULIN-TREATED PATIENTS IN BULGARIA

Doneva M¹, Valov V², Borissova AM³, Tankova T³, Savova A¹, Manova M¹, Petrova G⁴, Czech M⁵