ers and specialists, hospital admissions within the last 12 months, and number of medications taken at least once a week. The results, which we observed according to age (in 5-year intervals), gender, education and subjective perception of income. Analyses of bivariate relationship dependencies were performed by Pearson’s chi-square test and Cramer’s contingency coefficient, wherein the value of p < 0.05 was considered statistically significant at the 95% confidence level. **RESULTS:** As expected, older individuals in Slovenia more often seek ambulatory medical care, take multiple medications and are hospitalized at a higher rate. The only exception were older individuals, who are also more likely to stop taking their medications. With the utilization of health services was lower than in the age group from 70 to 79 years. Besides age, education was an important factor that influenced the use of health care services, while income significantly affected only the number of contacts with general practitioners. **CONCLUSIONS:** Our findings are important for the planning and implementation of health care system in Slovenia, particularly in the current conditions of austerity measures, changing demographic structure and rapid technological progress of medicine.

**PHPS DEVELOPMENT, TEST-RETEST RELIABILITY AND VALIDITY OF THE PHARMACY VALUE ADDED SERVICES QUESTIONNAIRE**

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**OBJECTIVES:** To establish reliability and validity of a Value Added Services Questionnaire (VASQ) using themes generated from interviews based on Theory of Planned Behaviour. **METHODS:** Using an extended Theory of Planned Behavior (TPB) and a hypothetical scenario, face-to-face views generated salient issues of VAS. The VASQ questionnaire was constructed initially in English incorporating important themes and later translated into the Malay language with forward and backward translations. Intention (INT) to adopt VAS is predicted by Attitudes (ATT), Subjective Norms (SN), Perceived Behavioral Control (PBC), Knowledge and Expectations. Using a 7-point Likert-type scale and a dichotomous scale, test-retest reliability was assessed by administering the questionnaire twice at an interval of one week apart. Internal consistency was measured by Cronbach’s alpha and construct stability between two administrations was assessed using the kappa statistic and the Intraclass correlation coefficient (ICC).

**RESULTS:** The results show that VASQ has high internal consistency, a good test-retest reliability and the construct validity as assessed by administrating the questionnaire instrument using the Theory of Planned Behaviour as the theoretical model. The translated Malay language version of VASQ is reliable and valid to predict Malaysian patients’ intention to adopt VAS to collect public medicine supply.

**PHPS THE IMPACT OF CONSUMER-DIRECTED HEALTH PLANS ON PRICE SHOPPING**

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**OBJECTIVES:** To evaluate whether consumer-directed health plans (CDHPs) lead patients to shop for lower-cost office visits. **METHODS:** We started by comparing the prices paid by patients in CDHPs versus traditional plans. This analysis showed that patients switching from traditional plans to a CDHP that was at least one week behind the CDHP patients’ price shopping behavior within the same plan and hospital referral region (Plan-HRR). Finally, we estimated the effect of CDHP enrollment under difference-in-difference (DID) frameworks. We used longitudinal claims data comparing patients switching from traditional plans in pre to CDHPs in post year (treatment group) with patients remaining in traditional plans (control group). The outcomes were the total price on the patient level and the percentile of the price within a Plan-HRR.

**RESULTS:** CDHP patients paid higher prices than controls, but even the same provider charged significantly higher price from CDHP patients (**p**= 0.001). Prior to CDHP enrollment, patients in the treatment group paid slightly lower than the controls but statistically not significant (**p**= 0.526; 95% CI = 0.238, 0.108). Post-enrollment actual price was significantly lower in the treatment group (**p**= 0.001). The difference in negotiated prices between CDHPs and traditional plans and 2) difference in patients’ preferences for price shopping. Therefore, we first examined the negotiated price difference within the same provider and then the investigated the pre- and post- CDHP enrollment patients’ price shopping behavior within the same plan and hospital referral region (Plan-HRR).

**CONCLUSIONS:** Switching to CDHPs does lead patients shop for lower-cost office visits but the savings are modest.

**HEALTH CARE USE & POLICY STUDIES – Diagnosis Related Group**

**PHPP PECULIARITY, ENVIRONMENTAL AND CHRONIC DISEASES: USING ECOLOGICAL MODELS AS A FRAMEWORK FOR ANALYSING RISK FACTORS OF CHRONIC DISEASES**

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**OBJECTIVES:** With the accelerated aging trend of the population and transformation of the epidemiological spectrum, a fundamental change in disease spectrum of our human beings, and a major threat to human health has been gradually shifting from infectious diseases to chronic non-communicable diseases. Basing on above, an ecological model that derived from Bronfenbrenner’s ecology of human development theory was proposed as a theory-based framework to analyse the risk factors of chronic diseases. Combined with the characteristics of chronic diseases, as well as sociology, policy science and related theory, the ecological model was elaborated to provide the scientific basis, behavioural characteristics, family microsystem, work microsystem and the policy environment variables. **METHODS:** Cross-section data of CHARLS (China Health and Retirement Longitudinal Study) 2013 which includes about 10,000 household members and 15,750 individuals in 150 counties/districts and 450 villages/resident committees was adopted to conduct the empirical study. Two Methods of regression analysis evolved from two-part models and descriptive statistically analysis were combined to analyse the effects of different influence factors on the prevalence and incidence of chronic diseases. **RESULTS:** Firstly, personal traits and behavioral characteristics are the primary factors which influence the prevalence of chronic diseases; Secondly, family microsystem, work microsystem can also have important effects on chronic disease prevalence and the incidence; Thirdly, social and cultural factors have a continuous influence on chronic disease prevalence, which means only long-term living will affect the incidence of chronic diseases. **CONCLUSIONS:** Some effective measures should be put forward to improve the awareness of chronic disease prevention and control work. Meanwhile, health departments should be undertaken by chronic illness prevention and treatment mode and carrying out prevention policy. Secondly, comprehensive intervention should be carried out in the community. Thirdly, basic medical insurances for low-income people to affordable health services should be guaranteed.

**PHPP INVESTIGATING LEVELS OF BACTERIAL RESISTANCE AND ANTIBIOTIC CONSUMPTION IN THE ST. PETERSBURG STATE MEDICAL UNIVERSITY**

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**OBJECTIVES:** To investigate the trends in antibiotic resistance and antibiotic prescription between 2007 and 2014 in the St. Petersburg State Medical University. **METHODS:** Data on patient demographics, length of stay in hospital, clinical outcomes, antibiotic usage and antibiotic susceptibility were retrospectively gathered for 3000 patients across 7 hospital wards between the years 2008 and 2014. Patients were eligible if they presented with or had any bacterial infection in hospital and had a microbiological sample taken whilst in hospital. Across the same period, inpatient antibiotic prescribing was stopped in the hospital pharmacy were gathered on a monthly basis and converted into their defined daily dose (DDD) per 100 bed-days. **RESULTS:** The most common infections were intra-abdominal (43%) and urinary tract (42%). Just over 83% had a microbiological sample taken whilst in hospital. Prescription of gram negative bacteria in our institution increased from 2% in 2008 to 8% in 2014. **CONCLUSIONS:** Fourteen percent of these showed the isolated microorganism being resistant to the antibiotic it was tested against. This was highest in 2014 where the level of overall resistance reached 17%. The prevalence of extended spectrum beta-lactamase (ESBLs) increased from 9% in 2008 to 11% (ICU) in 2014. The levels of Escherichia coli bacterial resistance doubled over the 7-year period from 11% to 22% with its resistance to ceftriaxone increasing from 2% in 2008 to 22% in 2014. Across the same time period the prescription of antibiotics, as measured by DDD, increased by 9.8%, with prescriptions of carbapenems increasing by 64%.

**OBJECTIVES:** The French “liste-en-sus” was implemented to support an equal access to a range of innovative and high-priced medicines. The methodology to define the scope of this list has been updated recently. Listing or delisting is now decided per therapeutic indication and no longer by product. Our aim is to assess the relevance of listed therapeutic indications in accordance with the updated methodology. **METHODS:** Using the French health technology assessment published by the Transparency Committee, we gathered for each medicine included on the liste-en-sus (excluding blood-derived products) until March 1st, 2015: assessment date, marketing authorization date, medical benefit and improvement in medical benefit (IMB) scores and medicine comparator. We selected therapeutic indications which fulfilled both criteria: no IMB and the comparator is financed by diagnosis-related groups (DRGs). Using the French medicalized information system program, we identified International Classification of Diseases (ICD)-10 coding groups corresponding to these indications in France in 2013. **RESULTS:** The liste-en-sus includes 214 indications. IMB is available in 87% of cases. 6% of indications have been assessed yet as marketing authorization has been granted recently. Among the 32% of indications showing no IMB, the comparator is financed by DRGs in 7% of cases (16 indications or 11 medicines). The 12 ICD-10 coding groups corresponding to these 16 indications show an expenditure of EUR 450.5 million. This amount represents 16% of the total expenditures (EUR 2.8 billion) for all medicines included on the liste-en-sus in 2013. **CONCLUSIONS:** From now on, all indications including extensions of indication have to be evaluated before being registered on the liste-en-sus by analyzing the health technology assessment published. 16 therapeutic indications are not matching the criteria defined in the new methodology.
Prevalence of antibiotic resistant bacteria has steadily increased over the 7-year period alongside that of antibiotic usage. Association between antibiotic resistance and clinical factors including antibiotic consumption, site of infection and severity of infection will be examined and a mathematical model predicting bacterial resistance, which controls for these factors, is being constructed.

**PHP10**
**THE UNDER-RECOGNISED HUMAN AND ECONOMIC IMPACT OF CHRONIC RHINOSINUSITIS**
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**OBJECTIVES:** The impact of chronic rhinosinusitis (CRS) on healthcare resources, productivity and health-related quality of life (HRQoL) is under-recognized and the condition under-treated. The objective of this study was to identify the extent of the burden of disease and the impact of CRS on health-related quality of life (HRQoL). The literature search of Medline and EMBASE (2000 - January 2015) was performed. Eligibility criteria included patient-reported CRS or a CRS diagnosis, prospective and retrospective designs. Abstracts or full text articles were systematically selected if they presented data for patients with a diagnosis of CRS, and search relevant to CRS, and its human and economic burden were applied. **RESULTS:** The search yielded 786 titles and ultimately 32 abstracts/articles met the eligibility criteria. People with CRS have significantly worse physical, emotional, mental and social HRQoL compared to the general population. They are also three times as likely to report their health as poor compared to those with another chronic condition, and among those with medically refractory CRS, 49% report anxiety/depression, while 31% report problems with daily activities. In addition, CRS is associated with a significant rise in costs due to an increased need for primary/secondary care, emergency room visits, and prescription refills. Comparatively, medically refractory CRS resulted in a significantly higher indirect cost than diabetes, migraine or severe asthma. The cost of lost productivity was estimated to be USD$10,077 annually per patient in the US, and increased with severity. The longer the time delay between diagnosis and surgery (SS), the greater the need for CRS-related visits and prescriptions, rendering delayed SS economically inefficient. However, the cost of managing complications of SS (nasal bleeds and cerebrospinal fluid leaks) more than doubles the cost of the procedure itself. **CONCLUSIONS:** Results consistently demonstrate that CRS imposes a substantial human and economic burden on patients and society, especially medically refractory CRS.

**HEALTH CARE USE & POLICY STUDIES – Drug/Device/Diagnostic Use & Policy**

**PHP11**
**SYSTEMATIC REVIEW ON USE OF ECONOMIC EVIDENCE IN CLINICAL GUIDELINES**
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**OBJECTIVES:** The recent reforms and policy changes have increased the cost pressures on all healthcare stakeholders, including clinical experts. In the past, clinical guidelines were developed independent of cost or economic considerations. However, increasingly, more clinical guidelines are mentioning cost concerns and referring to economic data in new recommendations. The objective of this study was to identify the extent of the burden of disease and the impact of CRS on health-related quality of life (HRQoL) comparisons, G-BA decision/rationale (G-BA). Extraction included assessment date/type, active substance, indication(s), therapeutic area, target population in total/subgroups (min, max, exact) and data sources. Missing exact numbers were calculated from min/ max. For the analysis indications/subgroups clearly differing by written definition were excluded. **RESULTS:** 147 indications were included. Overall the mean deviation for the target population was 39 % (exact number, positive/negative differences included). Mean deviations by year were 42 % (2011), 15 % (2012), 65 % (2013) and 35 % (2014/2015). Therapeutic areas with the highest deviations concerned “Infectious Diseases” (51 %), “Metabolic Diseases” (51 %) and “Oncology” (28 %). These areas addressed 150, 94 and 27 % of the 147 assessments, respectively. Further results on e.g. min/max, subgroups, sensitivity analyses excluding deviations ≥ 80 % (signaling a difference in definition) will be presented. **CONCLUSIONS:** Epidemiological data presented in clinical guidelines and G-BA decision/rationale reports since 2011 differ in terms of involved number of innovative drugs experienced a price cut (around 37% of the samples analysed for both countries). Price cuts commonly occur after 1.2 year on average in Germany and 1.7 year in France. Drugs assessed under the AMNOG reform in Germany saw the prices drop by an average of 17%. In Italy, Spain and the United Kingdom, the part of innovative pharmaceuticals experiencing price cuts is more limited, 10.6%, 12.9% and 16%. Additionally, the average price cut is small. **CONCLUSIONS:** Within the EU top 5, price cuts for innovative pharmaceuticals are more likely to be implemented in Germany as well as in France. In Germany, the AMNOG reform has had a significant impact on prices of drugs that completed the process. In France, the majority of the price cuts occurred for drugs that are not deemed innovative (ASMR rating of IV or V), while 50% of the drugs had the European level price guarantee for a five-year period. In Italy, Spain and the United Kingdom, price cuts do not occur regularly, at least at the list level. Other studies have demonstrated that prices tend to be lower at launch but are more likely to remain constant over time.