that of patients infected with carbapenem-sensitive bacteria. METHODS: A cross-sectional study was carried out for 3 months and the data for hospitalization cost was collected for the patients with carbapenem resistant and carbapenem sensitive infections from the medicine ICU and the microbiology department for 114 patients with bacterial infections who were admitted to Intensive care unit. The data was validated with respondents and correspondents. The median hospitalization cost was calculated for both of the groups of patients. RESULTS: Out of 247 patients admitted in the ICU during a three month period 70(28.34%) were found to be having carbapenem-resistant infections and 44(17.81%) were found to have carbapenem-sensitive infections. The median length of stay in the hospital was 9 days for carbapenem-sensitive patients while 23.5 days in case of carbapenem-resistant patients. The median hospitalization cost was found to be 40181 Naira in case of carbapenem sensitive patients and it was 47392 Naira in case of carbapenem-resistant patients. CONCLUSIONS: Carbapenem-resistance is observed to be increasing the morbidity and cost burden on the patients substantially. This study helps in hospital stay length and the cost associated with the disease. Nosocomial infections which further leads to the increased morbidity, mortality and cost burden on the society.

PIN34 ECONOMIC BENEFIT OF THE 23-VALENT PNEUMOCOCCAL POLYSACCHARIDE VACCINATION PROGRAM FOR THE ELDER AGED OVER 75 YEARS IN TAIWAN
Wen YW1, Chang CJ2
1Chang Gung University, Taoyuan, Taiwan, 2Chang Gung University, Tao-Yuan, Taiwan
OBJECTIVES: Studies has shown that receiving 23-valent pneumococcal polysaccharide vaccine (PPV23) would reduce the risk of pneumonia-related diseases and decrease the health care cost of patients with pneumonia. This study aims to evaluate the economic benefit of PPV23 for the elderly aged 75 years and above in Taiwan.
METHODS: The outcome data was drawn from Taiwan’s National Health Insurance Research Database and immunization information was derived from the National Immunization Information System (NIIS). PPV23 were provided to a total of 318,257 citizens who were free of PPV23 during 2007-2008 and the vaccinated group was about 10% lower than the non-vaccinated group, arranged by age. The 1-year total medical cost (outpatient and inpatient) and 1-year pneumonia-related cost were recorded after they were vaccinated. A propensity score matching was used to avoid the selection bias due to the systemic difference between the vaccinated group and non-vaccinated group, and then GEE regression models were used to estimate the difference of the costs between two groups. RESULTS: After controlling the demographic characteristics, medical history and medical utilization, 1-year total medical cost and 1-year pneumonia-related cost for the vaccinated group compared with the non-vaccinated group had significant reductions of 94.45 USD (p-value <0.0001) and 86.77 USD (p-value <0.0001), respectively. On average, the cost-saving of the vaccination for the elderly was 2.75 million USD. CONCLUSIONS: PPV23 vaccination can provide not only clinical benefit but also economic benefit and cost-saving of the vaccination for the elderly was 2.75 million USD.

PIN35 CLINICAL AND ECONOMIC ANALYSIS OF LINEZOLID IN NOSOCOMIAL PNEUMONIA TREATMENT FROM PRIVATE AND PUBLIC PERSPECTIVES IN BRAZIL
Vasconcellos JF1, Santos FM1,4, Fernandes RA1, Haas LC2, Amaral LM1, Ferreira CN2, Rufino CS2
1ANOV, Rio de Janeiro, Brazil, 2Pfizer, Inc., São Paulo, Brazil
OBJECTIVES: Linezolid (LNZ) is the second most common cause of in-hospital infection and the leading cause of death from infections acquired in hospitals commonly caused by methicillin resistant Staphylococcus aureus (MRSA). This study aims to evaluate clinical and economic outcomes related with LNZ treatment for nosocomial ventilator-associated pneumonia (VAP) or nosocomial infections from a private and public payer’s perspective in Brazil.
METHODS: A decision-tree model simulates NP treatment with linezolid (600mg bid, 19 days), teicoplanin (400mg bid, 22 days), and vancomycin (15mg/kg bid, 24 days) and their associated costs in a time horizon of complete hospital care. After a first evaluation patients with response continued with maintenance treatment and those with failure switched to a second treatment. Efficacy data (clinical response) was generated by meta-analysis based on systematic literature review. Costs included drugs, medical follow-up and adverse events management, collected from Brazil official databases (values represented 2013 BRL). RESULTS: Clinical response, days on ward, and intensive care unit (ICU) days were [72.6%; 7; 12], [68.3%; 8; 14], and [66.5%; 8; 16] for linezolid, teicoplanin, and vancomycin, respectively. Total treatment costs with linezolid, teicoplanin, and vancomycin were 2013 BRL 162,458,715BRL in the period with 46.22% and 41.78% due to tuberculosis and dengue, respectively. Over the years, cost distribution was: 16,039,290BRL in 2009, 27,970,758BRL in 2010, and 23,860,733BRL in 2011 for dengue, and 21,791,027BRL in 2009, 23,889,130BRL in 2010 and 29,410,533BRL in 2011 for tuberculosis. Compared to 2009, 2011 showed an increase of 39% and 37% in hospitalizations and associated costs, respectively. In-hospital death presented an increase of 9.7%, except for Chagas disease. Mortality reduction of 45% and 64% was observed. When the geographic distribution indicated northeast region accounting for 39.47% of hospital admissions, and 35.72% of costs, followed by southeast (23.02% and 29.79%, respectively) and north region (14.01% and 29.13%, respectively). CONCLUSIONS: Despite the implementation of PRONT in Brazil, this class of diseases still presents high frequency of hospitalization and costs, specially dengue and tuberculosis.

PIN36 MEASURING THE BURDEN OF HERPES ZOSTER IN THE UNITED STATES AMONG AN IMMUNOCOMPETENT POPULATION
Johnson BH1, Palmer LA2, Gwaltney J3, Lenhart GM4, Kawai K5, Acosta CJ3
1Truven Health Analytics, Bethesda, MD, USA, 2Truven Health Analytics, Cambridge, MA, USA, 3Merck & Co., Inc, West Point, PA, USA
OBJECTIVES: To evaluate the economic impact of herpes zoster (HZ) on the US health care system among immunocompetent persons.
METHODS: Administrative claims from the Truven Health MarketScan® Research Databases (2008-2011) were assessed to determine the incremental medical resource utilization (RU) and cost associated with herpes zoster. Cases were selected based on an ICD-9-CM diagnostic code for HZ (ICD-9-CM 053 xx), continuous enrollment 12 months pre/post the earliest diagnosis (‘index’), and having no HZ diagnosis or evidence of receiving the Zostavax® vaccine in the 12 months pre-index. Cases were directly matched 1:1 using demographic and clinical variables to immunocompetent controls without a diagnosis of HZ. RU data includes inpatient and outpatient hospitalizations and office visits. From the health care system perspective, HZ was associated with an increase in RU and costs ($11,904 and $4,384 USD) for HZ cases. HZ cases associated with a 1.1% increase in hospitalizations and a 1.5% increase in emergency room visits. Further emphasis on vaccination against HZ should be considered to help alleviate this medical burden.
PIN39
RECENT TRENDS IN COSTS, LENGTH OF STAY, AND MORTALITY ASSOCIATED WITH INFANT PERTUSSIS HOSPITALIZATION IN THE UNITED STATES

Davis KL, Kurosky S
RTI Health Solutions, Research Triangle Park, NC, USA

OBJECTIVES: Pertussis morbidty and mortality is proving to be a major public health concern. Research is needed to quantify the cost and mortality burden of infant pertussis. METHODS: Data on infant pertussis hospitalizations (ICD-9-CM discharge codes 033.0, 033.8, 033.9, 484.3) from the 2000-2010 Nationwide Inpatient Sample (NIS) were retrospectively analyzed. Costs were reported in 2000 dollars and costs associated with excess mortality using the 0.5 cost-to-charge ratio. Results: Total numbers of infant pertussis hospitalizations in the US followed a cyclic pattern, starting at 2,282 in 2000 and peaking at 5,343 in 2005, then declining to 1,601 in 2007 before another peak of 3,320 in 2010. Mean [SD] LOS for these hospitalizations fluctuated most between 3.0 [2.5] and 4.0 [3.5] days. The overall mortality rate was 0.02%. Furthermore, complete reporting of infant pertussis hospitalization across states for 2000-2010 was demonstrated.

PIN40
COST OF ERYTHROPOIETIN USE IN THE EARLY ACCESS PROGRAM OF TELAPREVIR FOR THE TREATMENT OF METAVIR F3-4 PATIENTS WITH GENOTYPE 1 HCV IN BRAZIL

Morais AI1, Magno LA1, Negreiros CV2
1University of São Paulo, São Paulo, Brazil, 2UniFRB, Brazil

OBJECTIVES: To estimate the direct medical costs associated with the use of erythropoietin (EPO) in the treatment of anemia in patients with advanced fibrosis and cirrhosis (METAVIR F3-4) receiving telaprevir in association with peg interferon and ribavirin (TVR+PR) in the early access program in Brazil. METHODS: Anemia episodes and EPO use during TVR therapy were gathered from published results of 97 patients in the early access program (EAP) of TVR in Brazil. Anemia treatment was assumed to be one vial of EPO, with an average daily dose of 40,000IUs, and costs associated with EPO treatment were gathered from a public (US) and private payer perspective in Brazil. Sensitivity analysis was carried out for anemia treatment duration and patients with EPO use. A sub-analysis was performed to estimate the cost of anemia treatment with bictegravir (BIC+PR) based on data from the phase 3 clinical trials. RESULTS: The cost of EPO during TVR+PR treatment in the EAP/anemic patient was R$ 10,190.04 from a private payer perspective compared to R$ 3,545.06 from a SUS perspective. The average cost per anemia episode was R$ 4,777.94 from a private payer perspective and R$ 1,644.87/patient from the SUS perspective. Considering the sensitivity analysis, the total cost of EPO treatment ranged between R$ 382,166.50 and 601,213.36 from the private payer perspective compared to R$ 89,989.10 and 40.40 from a SUS perspective for all patients. Considering EPO use for BIC+PR, the average anemia treatment cost was R$ 7,851.34/patient from a private payer perspective and R$ 1,966.96/patient from a SUS perspective. CONCLUSIONS: In a real-life setting, TVR+PR was associated with EPO use although few patients discontinued treatment. Compared to EPO use in clinical trials, TVR+PR was associated with less EPO costs, although few patients discontinued treatment. The average cost of EPO was R$ 4,727.34/patient from a private payer perspective and R$ 1,644.87/patient from the SUS perspective.

PIN41
COSTS OF ADVERSE EVENTS ASSOCIATED WITH TREATMENT OF HEPATITIS C VIRUS INFECTION: AN ANALYSIS USING THE QUEBEC PROVINCIAL DRUG REIMBURSEMENT PROGRAM DATABASE

Lachaine J1, Vachon ML1, Lambert-Obry V2, Beauchemin C1
1University of Montreal, Montreal, QC, Canada, 2CHU, Laval University, Quebec, QC, Canada

OBJECTIVES: The objective was to estimate, in a real-life setting, the healthcare cost utilization, more specifically resource utilization for management of the most common adverse events (AE) associated with current treatment of hepatitis C virus (HCV) infection. METHODS: A retrospective study of the Quebec provincial drug reimbursement program (RAMQ) was conducted using a random sample of patients who filed at least one script at the pharmacy for an HCV medication (pegylated interferon and ribavirin (peg-Riba) +/- bictegravir or telaprevir) from 2007 to 2013. Data on medical (excluding nurse visits) and pharmaceutical services were extracted from the RAMQ database. We report healthcare costs used during HCV treatment including outpatient physician’s visits and procedures, emergency department visits, hospitalizations, hospital stays and costs associated with adverse events, which included medical services and medications. RESULTS: A total of 962 patients who used at least one HCV medication were included in the study (mean age: 47.9 years (SD = 11.2); 64.5% were male). The proportion of patients who used Peg-Riba only, Peg-Riba +/- bictegravir or Peg-Riba +/- telaprevir was 90.5%, 8.2% and 3.4% and treatment duration was 31.5 weeks, 30.4 weeks and 21.6 weeks respectively. During HCV treatment, the average number of health care resources used per patient was 13.2 physicians’ visits, 4.4 hospitalizations, 0.8 hospitalization days and costs associated with adverse events during receiving HCV treatment, 20.8% of patients required erythropoietin, 33.3% received rash treatments and 48.8% were treated for depression. Estimated costs associated with management of these three AE were CDN$11,399, CDN$855 and CDN$2,395, patient respectively, for a total of CDN$2,395,258 for this cohort. CONCLUSIONS: HCV treatment is associated with significant health care resource utilization. A high percentage of patients experienced AE for which management was associated with substantial additional costs, especially the anemia treatment. Thus, the cost of AE should be considered in future treatment options.

PIN42
DIRECT COST OF HEPATITIS C FROM THE PERSPECTIVE OF THE HEALTHCARE SYSTEM FOR THE FEDERAL GOVERNMENT EMPLOYEES IN MEXICO

Moeller S, García X, Hernández F, Light M, Alfonso M, Rojes-López A1, ISSSTE, Mexico, Mexico, 2ISSSTE, Mexico, Mexico, 3ISSSTE, Mexico, Mexico, 4ISSSTE, Mexico, Mexico, 5ISSSTE, Mexico, Mexico, 6ISSSTE, Mexico, Mexico, 7ISSSTE, Mexico, Mexico, 8ISSSTE, Mexico, Mexico, 9ISSSTE, Mexico, Mexico

OBJECTIVES: Estimate the direct cost of hepatitis C in Mexico, from the perspective of the federal government employees, and simulate the economic impact of new antivirals. METHODS: We reviewed one hundred clinical records of patients diagnosed with chronic hepatitis C, to know the pattern of resources used at two hospitals of the health care system for the government employees, taking into account the disease stages based on the Child-Pugh. The inclusion criterion was patients with chronic HVC unresponsive to treatment or without the double viral therapy. Unit prices and costs of medical inputs were obtained from official sources. Data on pertussis-related hospitalizations were obtained from published results of 97 patients. Statistical analysis of data was made with the SPSS. Simulation of economic impact of treatment with antiviral drugs was done based on natural history of disease over a ten years horizon. RESULTS: Annual mean costs of disease progression and complications were higher for Child-Pugh C (USD$7,393) than B (USD$3,193) and A (USD$4,430). The estimated cost of one patient in Child-Pugh A stage not responding to peginterferon and ribavirin resulted in USD$62,506 taking into account that this patient remains thus until Child-Pugh C. If the not responding patient could be treated with peginterferon, ribavirin and boceprevir the cost would be USD$43,633, while a naive patient would cost USD$34,302. CONCLUSIONS: HCV imposes a high economic burden to the health care system for the government employees. The access of this population of patients to new antivirals would result in savings for the institution as well as increasing health benefits for patients.

PIN43
A COST-EFFECTIVENESS ANALYSIS OF PRE-EXPOSURE PROPHYLAXIS (PREP) FOR THE PREVENTION OF HIV IN THE LOS ANGELES COUNTY MSMS POPULATION

Barnes KL, Hilly J1, Van Dyke DN2, Van Dyke DJ2, Van Dyke JD2, University of Southern California, Los Angeles, CA, USA, 1Rand Corporation, Santa Monica, CA, USA

OBJECTIVES: To assess the potential trade-offs between aggressive screening (“test-and-treatment”) of the human immunodeficiency virus (HIV), early initiation of treatment (“test-and-treat”) with antiretroviral therapy (ART), and pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) in Los Angeles County (CAL). METHODS: A Markov model with 17 health states, including HIV incidence among 15-65 year old MSMs of LAC over a twenty-year period, and the cost and effectiveness of various HIV interventions using a societal perspective and a lifetime horizon. Annual LAC MSM population data (2000-2010) are estimated from the LAC HIV Surveillance Reports and the RAND California Population and Demographics database. The model input parameter values are derived from the published clinical literature and the Federal Supply and IMS Fee Schedules. For each intervention, we estimate the number of new HIV infections averted, the discounted costs and quality-adjusted life years (QALYs), and the incremental cost per infection averted and cost-effectiveness ratios. Bootstrap resampling was conducted to assess the robustness of the estimates. RESULTS: Our preliminary results show that relative to the status quo policy, and at the current US willingness to pay threshold of $100,000/QALY saved, PrEP and “test-and-treat” are cost-effectiveness dominant w/ICERs $0, -$4,746 and $94,520 per QALY saved, respectively. These results are imputable to the potential and preventive survival benefits of PrEP, knowledge of infection status, and early treatment. The relative effectiveness of PrEP is sensitive to PrEP and ART adherence and population size. All cost-effectiveness results follow patent expiration. CONCLUSIONS: PrEP, “testing” and “test-and-treat” strategies remain particularly contingent on the uptake rate and adherence to treatment. The lack of evidence on adherence behaviors towards PrEP thus warrants further studies that mimic real-world adherence patterns.

PIN44
COST-EFFECTIVENESS OF SMALL INTESTINAL SUBMUCOSA EXTRACELLULAR MATRIX ON WOUND CLOSURE IN PATIENTS WITH DIFFICULT-TO-HEAL WOUND OF EDARVIAL/ARTERIAL/VENOUS AND VENOUS ETIOLOGY

Collison AM, Wycaster C
Smith & Neuhof Biotherapeutics, Fort Worth, TX, USA

OBJECTIVES: Determine the cost-effectiveness of small intestinal submucosa extracellular matrix (SIS/ECM) relative to standard of care (SC) on wound closure for the treatment of mixed arterial/venous (AVV) or venous (VLV) ulcer patients. METHODS: A 2-stage Markov model was used to predict the expected costs and outcomes of wound closure for mixed arterial/venous ulcer patients. Cost data was taken from an 8-week randomized clinical trial that directly compared SIS/ECM and SC. Patients were followed for 6 months to assess wound closure. Forty-eight patients were included in the study. The SIS/ECM arm received the following patent: (P=0.05), with 20 wounds closed in the SIS/ECM group (80%) and 15 wounds closed in the SC