CONCLUSIONS: Quadrivalent seasonal influenza vaccines, at price parity with trivalent vaccines, appear to be highly cost-saving from the third-party payer and the societal perspectives.

PIN63 A COST-EFFECTIVENESS ANALYSIS OF TWO PATIENT-LEVEL REMINDER INTERVENTIONS IN THE TREATMENT OF ACUTE MyELOID Leukema IN THE CURRENT U.S. HEALTH CARE SETTING: METHODS: A previously published (O’Sullivan et al., VIH 2009) cost-effectiveness model was used to assess the cost-effectiveness of posaconazole versus FLU/ITRA in the prevention of IFIs among neutropenic patients resulting from chemotherapy for AML or MDS. Drug efficacy, mortality related to IFIs and death from other causes, were all estimated using data from a randomized clinical trial (Cornely et al., NEJM 2007). IFI treatment costs were inflation-adjusted over last 6 years (2007-2012) and drug costs were based on 2012 IMS data. RESULTS: Trial data estimates the probability of an IFI over 100 days of follow-up while on posaconazole is $5,293 and $5,859 respectively. The incremental cost-effectiveness ratios (ICER) for posaconazole versus placebo were estimated to be $12,860 per QALY saved. CONCLUSIONS: Posaconazole is cost-effective to FLU or ITRA in the prevention of IFIs among neutropenic patients with AML and MDS in the current U.S. health care setting.

PIN66 POTENTIAL EPIDEMIOLOGICAL AND ECONOMIC IMPACT OF DIFFERENT ROTAVIRUS VACCINES IN LOW AND MIDDLE INCOME COUNTRIES OBJECTIVES: Several studies have shown rotavirus vaccine is cost effective in low and the middle income countries. Despite this, competing choices of rotavirus vaccines make the selection of even vaccine difficult for health decision-makers in low and middle income countries. The objective of this study is to estimate the cost-effectiveness of the monovalent (MNV) and pentavalent (PTV) rotavirus vaccines on children mortality in 116 low and middle income countries that represent 90% of the world’s population. METHODS: A decision economic model was built to estimate the effect of MNV or PTV vaccination. Inputs were gathered from international databases, previous research and a systematic review of MNV and PTV vaccine effectiveness. Outcomes were reported in terms of cost per disability-adjusted life-year (DALY) averted, comparing no vaccination being implemented on selected countries for the year 2010 with either MNV or PTV introduction. RESULTS: Costs were expressed in 2010 international dollars. RESULTS: Low and middle income countries could have saved 601.511 million DALYs. A rotavirus vaccine other than the one that would not have been used. Under no vaccine scenario, 139 DALYS per 1000 children, 1.57 million inpatient and 9.17 million outpatient cases would occur every year. MNV would aver 53.3% of rotavirus-related deaths, and PTV 57.9%. MNV and PTV were highly cost effective worldwide, according to WHO criteria (less than per capita gross domestic product) €143 cost per DALY for MNV versus €152 cost per DALY for PTV. Vaccination effectiveness was lower in low income countries. CONCLUSIONS: Rotavirus vaccine is cost-effective in all evaluated countries. Despite cost effectiveness analysis is a useful tool for decision making in middle income countries, for low income countries health-decision makers should also assess the impact of introducing either vaccine on local resources, and budget impact analysis of vaccination.

PIN67 COST-EFFECTIVENESS EVALUATION OF AMPHOTERICIN B, AMPHOTERICIN B LIPOSOMAL, CASPOFUNGIN AND VORICONAZOL IN TREATING ASPERGILLOSIS UNDER THE BRAZILIAN PRIVATE HEALTH CARE SYSTEM PERSPECTIVE OBJECTIVES: Aspergillosis is the second cause of invasive fungal infections with high mortality rates. The objective of this research is to evaluate the cost-effectiveness of amphoter cin b (AB) 1.5mg/kg/day, amphoter cin liposomal (AL) 5mg/kg/day, caspofungin (CA) 50mg/day, voriconazol (VO) including maintenance oral Voriconazol 400mg/day scheme in the treatment of aspergillosis under the Brazilian private health care system perspective. METHODS: A decision tree model was built considering sequential treatments, from which patients could respond to one initial treatment and continue to a maintenance phase of the same medication, or do not respond due to either medical reasons or adverse events (i.e., at the end of treatment, [i.e., 7-30 days after the end of treatment]). Direct medical costs (USD, 2011 values) were calculated from the health care resources used, including study medication, hospitalization, ambulatory care, laboratory tests, and patient nonmedical factors (e.g., nonpharmaceutical treatment, cost of travel, nonpayment for medications). RESULTS: The bootstrap was conducted to calculate confidence intervals (CI) for costs, efficiency, and incremental cost-effectiveness ratios (ICER). One-way sensitivity analyses were conducted to evaluate the uncertainty and cost drivers. RESULTS: Data from 391 patients (186 liposomal, 205 vancomycin) were analyzed. A greater proportion of liposomal patients achieved treatment success versus vancomycin patients [mean (95% CI)]: 55% (48.3%-61.9%) versus 45% (38%-52.3%). Total costs per linezolid patient were $48,929 ($45,375-$52,483) compared to $46,665 ($43,201-$50,128) per vancomycin patient. The point estimate for the ICER of liposomal versus vancomycin was $16,516. The median ICER from bootstrapping was $16,219 (95% percentile: $100,487). Of the 10,000 bootstrap simulations, 73% had higher ICERs, 24% had higher costs and lower ICERs, and 3% had higher efficacy and lower costs for liposomal (liposomal dominated vancomycin), and -2% had higher efficacies and lower costs for vancomycin (vancomycin dominated liposomal). Key cost drivers included number of ICU and general ward days in each treatment group. Addition of empirical treatment had a relatively small impact on ICER. CONCLUSIONS: In this clinical trial population, linezolid appears to be cost-effective compared to vancomycin in treating patients with nosocomial pneumonia due to MRSA.

PIN64 COST-EFFECTIVENESS ANALYSIS OF LINEZOLID VERSUS VANCOMYCIN IN THE TREATMENT OF NOSOCOMIAL PNEUMONIA CAUSED BY METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) BASED ON A PHASE 4 CLINICAL TRIAL OBJECTIVES: To determine the incremental cost-effectiveness of linezolid versus vancomycin using data from a clinical trial assessing treatment of nosocomial pneumonia due to MRSA in hospitalized adults. METHODS: A cost-effectiveness analysis from the U.S. hospital-payer perspective was peggedback onto a phase 4, randomized, double-blinded, multicenter trial (Wunderink et al, Clin Infect Dis 2012) in nosocomial pneumonia patients with culture-positive MRSA [microbiological confirmed intent-to-treat (miITT) cohort]. Efficacy was measured by treatment success (defined as Cure-Improvement) at the end of study (i.e., 7-30 days after the end of treatment). Direct medical costs (USD, 2011 values) were calculated from the health care resources used, including study medication, hospitalization, ambulatory care, laboratory tests, and patient nonmedical factors (e.g., nonpharmaceutical treatment, cost of travel, nonpayment for medications). RESULTS: Patients [mean (95% CI)] were 55% (48.3%-61.9%) versus 45% (38%-52.3%). Total costs per linezolid patient were $48,929 ($45,375-$52,483) compared to $46,665 ($43,201-$50,128) per vancomycin patient. The point estimate for the ICER of linezolid versus vancomycin was $16,516. The median ICER from bootstrapping was $16,219 (95% percentile: $100,487). Of the 10,000 bootstrap simulations, 73% had higher ICERs, 24% had higher costs and lower ICERs, and 3% had higher efficacy and lower costs for linezolid (linezolid dominated vancomycin), and -2% had higher efficacies and lower costs for vancomycin (vancomycin dominated linezolid). Key cost drivers included number of ICU and general ward days in each treatment group. Addition of empirical treatment had a relatively small impact on ICER.

PIN65 COST-EFFECTIVENESS OF POSACONAZOLE VERSUS FLUCONAZOLE OR ITRACONAZOLE IN THE PREVENTION OF INVASIVE Fungal INFECTIONS AMONG NEUTROPENIC PATIENTS IN THE UNITED STATES OBJECTIVES: Toos has shown superior clinical efficacy than Fluconazole/Ittracozole (FLU/ITRA) in the prevention of invasive fungal infections (IFIs) among patients with neutropenia resulting from chemotherapy for acute myelogenous leukemia (AML) or the myelodysplastic syndrome (MDS). Previous study has shown that Posaconazole is cost-effective versus FLU/ITRA in the 2007 U.S. health care setting. To reflect the changes in health care cost and the changes in drug prices, the study aims to provide an update on the cost-effectiveness of Posaconazole in the current U.S. health care setting. METHODS: A previously published (O’Sullivan et al., VIH 2009) cost-effectiveness model was used to assess the cost-effectiveness of Posaconazole versus FLU/ITRA in the prevention of IFIs among patients with neutropenia resulting from chemotherapy for AML or MDS. Drug efficacy, mortality related to IFIs and death from other causes, were all estimated using data from a randomized clinical trial (Cornely et al., NEJM 2007). IFI treatment costs were inflation-adjusted over last 6 years (2007-2012) and drug costs were based on 2012 IMS data. RESULTS: Trial data estimates the probability of an IFI over 100 days of follow-up while on posaconazone is $5,293 and $5,859 respectively. The incremental cost-effectiveness ratios (ICER) for Posaconazole versus placebo were estimated to be $12,860 per QALY saved. CONCLUSIONS: Posaconazole is cost-effective to FLU or ITRA in the prevention of IFIs among neutropenic patients with AML and MDS in the current U.S. health care setting.

VALUE IN HEALTH 16 (2013) A1-A298
Brazilian 2011 GDP per capita), VO was the only cost-effective option compared to AB, additionally presenting lower mortality and less hospitalization days while allowing early de-hospitalization at private health care services.

**PIN68**

**IMPACT OF VACCINATION COVERAGE ON COST-EFFECTIVENESS OF INFLUENZA VACCINE AT PREVENTING HOSPITALIZATION**

**You J**

The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

**OBJECTIVES:** Influenza results in excess morbidity and mortality and therefore causes significant burden in a society. Outcomes of the influenza vaccine program are influenced by patient acceptance to receive the vaccine. The cost-effectiveness of influenza vaccine at preventing hospitalization for lower respiratory infection in Hong Kong was examined at different levels of vaccination coverage.

**METHODS:** A decision model was designed to simulate the outcomes of influenza vaccination programs at four different levels of vaccination coverage in a hypothetical cohort of elderly aged 65-year-old or above who have no contraindications for influenza vaccination: 1) 36% (current vaccination coverage rate in Hong Kong); 2) 35% (vaccination coverage rate in some Asian countries); 3) 65%; and 4) 100%.

The time horizon was one year. Model inputs were derived from literature, and outcome measures were direct medical cost (including vaccination) from the health care provider’s perspective, influenza-associated mortality rate, and quality-adjusted life-year (QALY) gained. Robustness of model results was examined by sensitivity analysis.

**RESULTS:** In the base-case scenario, 100% vaccination coverage was associated with the lowest cost (USD6.92), the lowest influenza-associated mortality rate (0.30 deaths per 10,000 persons) and the highest QALYs gained (0.8538), followed by 65% coverage (USD8.06; 0.35 deaths per 10,000 persons; 0.8345 QALYs) and 35% coverage rate (USD9.07; 0.39 deaths per 10,000 persons; 0.8245 QALYs) and 16% rate (USD9.70; 0.42 deaths per 10,000 persons; 0.8134 QALYs). The results were robust to variation of all model inputs in sensitivity analysis.

**CONCLUSIONS:** In the present model, high coverage rate of influenza vaccination seems to be associated with lower direct medical cost, lower influenza-associated deaths and higher QALYs.

**Pin69**

**THE COST-EFFECTIVENESS OF HEPATITIS B VACCINATION USING HEPLISAV-VERSUS ENGERTIX-B IN SELECT ADULT POPULATIONS IN THE UNITED STATES**

**Bonafede MM1, Juday T2, Farr A1, Lenhart GM1, Hebden T2, Correll T2**

1Pfizer Inc, Cambridge, MA, USA, 2Dynavax Technologies Corporation, Berkeley, CA, USA

**OBJECTIVES:** HEPLISAV is an investigational hepatitis B virus (HBV) vaccine with an anion-exchanger technology that allows higher quality adsorption and purification, compared with currently available vaccines. We modeled the cost-effectiveness of HEPLISAV compared with Engerix-B in the prevention of HBV infection in select adult populations. A Markov model was developed for each population of interest: diabetics, patients with chronic or end stage kidney disease, health care workers and international travelers to countries with high HBV infection prevalence. Disease progression was modeled using 11 health states: seroprotected, susceptible, acute infection, chronic infection, fulminant hepatic failure, compensated cirrhosis, decompensated cirrhosis, hepatocellular carcinoma, liver cancer, post- transplant care and death. Seroprotection rates were based on results from two phase 3 clinical trials comparing HEPLISAV with Engerix-B and ranged across the various populations from 89-96% for HEPLISAV and 62-81% for Engerix-B. Higher vaccination completion rates were assumed for HEPLISAV compared with Engerix-B given the lower doses of HEPLISAV are required in a shorter period of time to achieve seroprotection for the evaluated populations. Each cycle length represented a 1-year time frame. All future costs and QALYs were discounted at 3%. A lifetime horizon and a U.S. payer perspective were used in this study.

**RESULTS:** HEPLISAV has a favorable cost-effectiveness profile with incremental cost-effectiveness ratios <$20,000 across all populations studied. In the patients with chronic or end stage kidney disease, HEPLISAV was the dominant option and was cost-saving compared with Engerix-B.

The cost of vaccine, regimen completion rates, and seroprotection rates were the sensitive variables in the models.

**CONCLUSIONS:** HEPLISAV may be a cost-effective option for HBV vaccination to provide high rates of seroprotection and early seroprotection across a range of populations from health care workers to patients with chronic or end stage kidney disease.

**PIN70**

**COST-EFFECTIVENESS OF EFAVirenz COMPARED WITH GENERd NIVARAPINE IN HIV PATIENTS INITIATING FIRST-LINE TREATMENT IN THE UNITED STATES**

**Benadiva MI1, Haydu T1, Farr A1, Lenhart GM1, Heiden T1, Correll T1**

1Pfizer Inc, Cambridge, MA, USA, 2Bristol Myers Squibb Company, Plainsboro, NJ, USA

**BACKGROUND:** For first-line HIV treatment, US treatment guidelines state that efavirenz is the only preferred non-nucleoside reverse transcriptase inhibitor (NNRTI) while nevirapine (NVP) is listed as an acceptable NNRTI. Generic versions of NVP were first approved in the US in May 2011.

**OBJECTIVES:** To assess the cost-effectiveness of efavirenz versus generic NVP first-line HIV treatment in the US.

**METHODS:** A micro-simulation state transition model was constructed to estimate the costs (2012 US$) and clinical outcomes for antiretroviral naive HIV patients initiating EFV or NVP. Efficacy and safety data was taken from published literature and observational studies. Costs included antiretroviral drug acquisition, disease management (based on CD4 counts) and adverse events. Health utility was based on CD4 counts and adverse events. A 3% discount rate was used for costs and quality-adjusted life years (QALYs).

**RESULTS:** We have based on 100,000 micro-simulation trials with a ten year time horizon.

**RESULTS:** Over a 10-year period, EVF was dominant over generic NVP in the base case with incremental costs ($246,556 vs. $276,095), modestly higher QALYs (0.685 vs. 0.678), and similar life expectancy (9.934 vs. 9.934 years) with proportionally lower users constant, EVF was dominant over generic NVP until the price of NVP was reduced to 50% of its base case value. Giving EVF and NVP equal probability of treatment success but modestly higher EVF with modestly higher QALYs and similar life expectancy in HIV patients initiating first-line treatment in the US. Sensitivity analysis indicated results were not sensitive to NVP price changes.

**PIN71**

**COST-EFFECTIVENESS ANALYSIS OF LINEZOLID IN THE TREATMENT OF COMPLICATED SKIN AND SOFT TISSUE INFECTIONS IN COLOMBIA**

**Diaz-Sotelo OD1, Barbosa Castro T2, Vecino Ortiz A3, Mould Quevedo JF4, Vargas Zea N5, Prieto Martinez V6**

1Pfizer S.A.S., Bogotá, Colombia, 2RANDOM Foundation, Bogota DC, Colombia, 3RANDOM Foundation, Bogota DC, Colombia, 4Johns Hopkins University, Baltimore, MD, MD, USA, 5Pfizer, Inc., New York, NY, USA, 6Pfizer S.A.S., Bogota, Colombia, 7Pfizer S.A.S., Bogota, Colombia

**OBJECTIVES:** Skin and soft tissue infections caused by Staphylococcus aureus and Streptococcus pyogenes are a growing concern in Latin America due to the development of more complex resistance profiles to standard antibiotics. The aim of this analysis is to estimate the cost-effectiveness of linezolid in the treatment of complicated skin and soft tissue infections (cSTSI) in Colombia.

**METHODS:** A decision tree was built to estimate the incremental cost-effectiveness ratio (ICER) (EVG/cobi/FTC/TDF 500 orally/IV once/500 mg IV twice daily) compared to Vancomycin (1 g IV twice daily), Daptomycin (4 mg IV/kg/day) and Tigecycline (100 mg IV followed by 50 mg twice daily). The perspective was third payer including direct medical costs only. Effectiveness, safety and utility data was extracted from published literature. Unit costs were taken from health care institutions. Resource use and costs (drug acquisition, inpatient stay, health care professional visits, and lab tests) were considered for the model and expressed in 2012 US$. Time horizon was 28 days and effectiveness was measured in quality-adjusted life-year (QALYs) and percentage of patients cured.

**RESULTS:** Total expected costs for each alternative were Linezolid US$8,221.7, Vancomycin US$10,236.96, Daptomycin US$11,359.69 and Tigecycline US$15,559.92. Patients treated with Linezolid were associated with a shorter length of stay in the intensive care unit (7 days on average) which reduces overall treatment costs due it allows cSSI patients switching from intravenous to oral treatment on average 3 days. The ICER of Linezolid in the base case compared with Vancomycin was Linezolid 0.063, Vancomycin 0.060, Daptomycin 0.061 and Tigecycline 0.059. Results for each alternative in terms of percentage of patients cured were: Linezolid 84.4%; Vancomycin 74.7%; Daptomycin 78.1% and Tigecycline 70.4%. The model results indicate that Linezolid would be a dominant treatment compared to Vancomycin, Daptomycin and Tigecycline.

**CONCLUSIONS:** Linezolid seems to be a cost-saving option for the treatment of cSTSI in Colombia.