PINS4  
MICAFUNGIN VERSUS CASPOFUNGIN FOR THE TREATMENT OF SYSTEMIC CANDIDA INFECTIONS: A COST-EFFECTIVENESS ANALYSIS FOR SWITZERLAND  
Felder S1, Mayrhofer T2
1University of Basel, Basel, Switzerland, 2University of Duisburg-Essen, Essen, Germany
OBJECTIVES: To determine the cost-effectiveness of caspofungin versus micafungin for the treatment of systemic candida infections (including invasive candidiasis and candidaemia) in Switzerland. METHODS: To this end, a health economic decision model was used. All double- and triple-drug regimens are included for both caspofungin and micafungin. Hospitalization and primary medication costs are based on official Swiss data. The effectiveness outcome is defined as successfully treated and alive patients at the end of the study period. To test for robustness of cost-effectiveness results, a subgroup analysis, a two-way sensitivity analysis and a probabilistic sensitivity analysis (PSA) are performed. RESULTS: The main analysis shows that 60% of micafungin patients were successfully treated and survived at the end of study compared to 54% of caspofungin patients. The cost-effectiveness ratio for caspofungin treatment is smaller than the costs of a Caspofungin treatment (CHF 56,704). This result in a lower cost-effectiveness ratio for Micafungin (CHF 91,356) than for Caspofungin (CHF 98,900). Moreover, Micafungin dominates Caspofungin in the incremental cost-effectiveness analysis program cost-saving.

PINS5  
THE HEALTH AND ECONOMIC IMPACT OF VACCINATION WITH 7-VALENT PNEUMOCOCCAL VACCINE (PCV7) DURING AN ANNUAL INFLUENZA EPIDEMIC AND INFLUENZA PANDEMIC IN CHINA  
Wang B1,2, Caldwell R2, Roberts CS2, An Z2, Strutton DB3, Chen CT4
1Tulane Life Sciences, New Orleans, NJ, USA, 2Department of Medicine, Emory University, Atlanta, GA, USA, 3Fzzer Inc., New York, NY, USA, 4Chinese Center for Disease Control and Prevention, Beijing, China
OBJECTIVES: To determine the cost-effectiveness of a PCV7 vaccination program in China from the context of typical and pandemic influenza seasons. METHODS: A decision-analytic model was employed to evaluate the impact of a 7-valent pneumococcal vaccine (PCV7) infant vaccination program on the incidence, mortality, and cost associated with pneumococcal disease during a typical influenza season and influenza pandemic in China. Estimates were performed comparing an 85% level of PCV7 coverage among all newborn infants during a single year in China relative to a case where no PCV7 vaccinations occur for both a typical influenza season and severe influenza pandemic in China. The model incorporates Chinese data where available and includes both direct costs and indirect (herd) effects on the populations, assuming a homogenous group and a better approximation of Swiss patients, the cost-effectiveness ratio for Micafungin is CHF 88,474 compared to CHF 105,202 for Caspofungin. The cost-effectiveness ratio for Micafungin is CHF 98,900. Moreover, Micafungin dominates Caspofungin in the incremental cost-effectiveness analysis program cost-saving.

PINS6  
COST-EFFECTIVENESS OF BECAPLERMIN GEL ON WOUND CLOSURE IN THE TREATMENT OF PRESSURE ULCERS  
Spanbill PM, Waycaster C
Smith & Nephew Biotherapeutics, Fort Worth, TX, USA
OBJECTIVES: To determine the cost-effectiveness of becaplermin gel on wound healing in the treatment of pressure ulcers (PU). METHODS: An economic model was used to predict expected costs and outcomes of wound healing for becaplermin gel once daily compared to placebo gel over a 1-year time period. Outcome data used in the analysis were derived from a 16-week randomized clinical trial. Primary outcome was the percentage of wound closure achieved. Transition probabilities for the Markov states were estimated from the clinical trial. Ulcer recurrence rates were derived from PU literature. Utilization for becaplermin gel was calculated using the manufacturer’s recommended dosing algorithm for diabetic foot ulcers. Costs were derived from standard references and specific manufacturer and wholesale sources. The cost-effectiveness of becaplermin gel once daily was calculated compared to placebo gel at 16 weeks. The effectiveness outcome is defined as successfully treated and alive patients at the end of the study period. Methods: A decision tree analysis was used to compare cost-effectiveness of MBD with enzyme immunooassay (EIA) and cytotoxin assay (CA) respectively, using data from published literature and current clinical data. Analyses were conducted from the societal perspective. Both validated key outcomes related to survival, infection averted and costs for infections caused by MDR is likely to be cost effective. A275
caspofungin group were 74.9% - 68.3% - 70.2%, respectively, total costs were £8650.1, £9104.6, £7044.6, respectively. Thus, the cost-effectiveness ratio varied widely (115.5, 148.6, 138.8, respectively). CONCLUSIONS: Micafungin 100 mg/d group is the most cost-effective option in the treatment of invasive Candida infection in China, followed by caspofungin group.

**PIN62 ECONOMIC VALUE OF USING ANTIMICROBIAL COATED SUTURES FOR ABDOMINAL INJURIES PREVENTING SUTURES-SITE INFECTIONS**

Sinha A1, Battsch SM2, Muder RR1, Lee BY2

1University of Pittsburgh, Pittsburgh, PA, 2Johns Hopkins Bloomberg School of Public Health, Baltimore, PA, USA

OBJECTIVES: Since surgical site infections (SSI) continue to impose a substantial burden to hospital and society, there is a need to evaluate newer SSI-prevention interventions such as antimicrobial (e.g., triclosan) coated sutures. METHODS: We developed a decision-analytic model using Markov modeling to determine the cost-effectiveness of antimicrobial sutures in abdominal incisions from the hospital, third party payer, and societal perspectives. Sensitivity analyses systematically varied the risk of developing an SSI (range: 5% - 20%), cost of triclosan-coated sutures (range: £5 - £25 per inch), and efficacy of triclosan-coated sutures to prevent infection (range: 5% - 50%). RESULTS: Depending on their efficacy, triclosan-coated sutures saved £4,109 - 13,975 (from the hospital perspective), £4,113 - 14,297 (third party payer), and £40,127 - £53,244 (societal) per SSI prevented, when a surgery had a 1.5% SSI risk. However, if the SSI risk after surgery was 5% and the efficacy in preventing SSIs was ≤10%, triclosan-coated sutures resulted in extra expenditure for hospitals and third party payers; resulting in extra costs of £1,626 and £1,071 per SSI prevented, when a surgery had a 1.5% SSI risk. CONCLUSIONS: Our results show that switching to triclosan-coated sutures from the uncoated sutures can prevent SSIs and save substantial costs to hospitals, third party payers, and society over a wide range of SSI prevention efficacy, cost, and risk values.

**PIN63 COST-EFFECTIVENESS OF QUADRIVALENT INFLUENZA VACCINATION PROGRAM FOR THE ELDERLY AGED 65 YEARS OR OLDER IN TAIWAN**

Yun MC, Tan CH

National Taiwan University, Taipei, Taiwan

OBJECTIVES: Vaccines have been the main global means to minimize the impact of influenza and are recommended by WHO for individuals aged 65 years or older. The primary goal of influenza vaccination in the elderly is to reduce the risk of complications. Since 1998, a public-funded trivalent influenza vaccine (TIV) vaccination program has been implemented by the Taiwan government targeting people aged over 65 years. Another proposed alternative for preventing seasonal influenza is quadrivalent influenza vaccine (QIV) which contains an additional B-lineage (BIV) in addition to three existing strains (BV1, BV2, BV3). The aim of this study is to assess, from the governmental perspective, the cost-effectiveness of adopting QIV versus TIV for the elderly aged 65 years or older. METHODS: A Markov model was used to estimate the cost and effectiveness of QIV and TIV in the elderly. Direct cost data was obtained from the Taiwan National Health Insurance claims data. Vaccine efficacy and coverage rate were based on government statistical reports. Outcomes of lifetime included costs, utilities, and herd protection achieved in patients hospitalized with infections and QALYs gained. The corresponding incremental cost-effectiveness ratios (ICERs) were also estimated. The discount rate of cost and effectiveness was set at 3.5%. RESULTS: Compared to TIV, adopting QIV would yield the incremental effectiveness as follows: mean BV1 BV2 BV3 gained 26.021 cases of outpatient visit avoided, 7.271 cases of influenza complication avoided, and 330 deaths avoided. Using QIV instead of TIV would bring an additional 19,310,320 QALYs extra at a cost of £223.39 million, yielding an ICER of £1,651.3 per QALY gained. When herd protection of vaccination is considered, the ICER would be reduced to £236,660.1 per QALY gained. CONCLUSIONS: To use QIV as an alternative of first-line strategy to prevent seasonal influenza for the elderly in Taiwan would be cost-effectiveness from the governmental perspective.

**PIN64 COST-EFFECTIVENESS ANALYSIS OF TENOFOVIR/EMTRICITABINE AND ABACAVIR/LAMIVUDINE IN COMBINATION WITH EFAVirenz or ATAZANAVIR/ RitonavIR FOR TREATMENT-NAIVE ADULTS WITH HIV-1 INFECTION IN THE UNITED KINGDOM**

Williams E, Fisher M, Bregan A1, Talbott SB1

1Northwestern University, Chicago, IL, USA

OBJECTIVES: To assess the cost-effectiveness of the four comparators examined in the ACTG 5202 clinical trial, tenofovir/emtricitabine (TDF/FTC) or abacavir/lamivudine (ABC/3TC) in combination with efavirenz (EFV) or atazanavir/ritonavir (ATV/RTV), for treatment-naive adults with HIV-1 infection in the United Kingdom (UK).

METHODS: A Markov model with six health states based on CD4+ cell-count ranges was developed to estimate costs and health outcomes for individuals on first-line therapy. Head-to-head Markov modeling was used to simulate clinical data. The model had 10 health states (i.e., virological status and mortality) and was estimated using data from the ACTG 5202 clinical trial. Markov models were extended to evaluate future costs and health outcomes. The model was used to simulate the progression of individuals with HIV infection from baseline through 5 years. All costs and outcomes were discounted at a 3.5% rate. Results: Tenofovir/efavirenz (TDF/EFV) and abacavir/lamivudine (ABC/3TC) were associated with a lower incidence of virological failure and lower treatment discontinuation than atazanavir/efavirenz (ATV/EFV) and abacavir/3TC/ATV. After 5 years, 14.2% of patients were virally suppressed in the TDF/EFV group versus 10.9% in the ABC/3TC group (p = 0.043). The mean total QALYs in the TDF/EFV group was 0.64 higher than in the ABC/3TC group (p = 0.003). The mean total costs in the TDF/EFV group was £111,882 for TDF/FTC+EV, £124,302 for TDF/FTC+ATV+EV, £135,477 for ABC/3TC+EV, and £139,609 for ABC/3TC+ATV+EV. At a willingness-to-pay threshold of £30,000 per QALY gained, TDF/FTC-based regimens were predicted to be cost-effective compared with ABC/3TC-based regimens, with the incremental cost-effectiveness ratios of £20,545 for TDF/FTC+EV versus ABC/3TC+EV and £20,652 for TDF/FTC+ATV+EV versus ABC/3TC+ATV+EV. In subgroup analyses, TDF/ FTC-based regimens were predicted to be more cost-effective compared with ABC/3TC-based regimens. CONCLUSIONS: In an analysis of the results examined in the ACTG 5202 clinical trial for treatment-naive adults with HIV-1 infection, regimens containing TDF/FTC yielded more favorable health outcomes and were predicted to be cost-effective compared with regimens containing ABC/3TC.

**PIN65 COST-EFFECTIVENESS OF PROTEASE INHIBITORS FOR THE TREATMENT OF CHRONIC HEPATITIS C INFECTION: A SYSTEMATIC REVIEW**

Silva L, Hennig MA1,2

1Universidad de Chile, Santiago, Chile, 2Pontificia Universidad Católica de Chile, Santiago, Chile

OBJECTIVES: The current recommendations for hepatitis C infection genotype 1 include one protease inhibitor (IP), boceprevir or telaprevir, in addition to the pre-prototype proteases (PI) such as ritonavir boost. Studies have compared both PI-based therapies (TPI) and the use of more potent PIs (PPI), but not with ritonavir boost. However, the cost of these new drugs imposes high financial burden in the health care systems. The aim of this study is to undertake a systematic review of the cost-effectiveness of boceprevir compared to telaprevir and DT. METHODS: A systematic search was conducted in MEDLINE, EMBASE, Econlit and NHS-EDD. Only full-text published manuscripts were considered and no further restriction were included. Relevant studies were selected by two independent researchers. Disagreements were resolved by discussion. A checklist was used based on the CHEERS guideline to assess the quality of the studies. RESULTS: Nine studies were found. Three compared Boceprevir versus DT whereas 6 compared both IP with DT. Six analyses were presented (no previous meta-analyses) and parameters were found. Most studies showed DT was more cost-effective in health system perspective. Only two studies used information from mixed treatment comparisons to be incorporated into the model. 8 out of 9 studies concluded that the IP is cost-effective for their corresponding jurisdiction. In naive patients, two studies showed a boceprevir being cheaper than telaprevir and using the same brand for both treatments. CONCLUSIONS: The treatment with IP compared with DT is cost-effective in all perspectives. PPIs were not recommended for current approval and future therapy. We recommend future research to improve quality and quantity of studies to make more conclusive results.

**PIN66 COST-MINIMIZATION STUDY OF SEQUENTIAL THERAPY OF LINEZOLID IN A BRAZILIAN PUBLIC HOSPITAL: WHICH IS THE PHARMACOECONOMIC IMPACT?**

Taguti E, Silva EAA, Steinmbach LM, Sanches ACC

State University of West Parana, Cascavel, Brazil

OBJECTIVES: Conduct a pharmacoeconomic analysis, cost-minimization type of research, which evaluated nine cases of linezolid (Lz) use in patients hospitalized between August 2009 and December 2010 in a public hospital in Brazil. METHODS: We conducted a retrospective chart study at a Brazilian public hospital from August 1, 2009 through December 31, 2010. A cost-minimization analysis was used for the determination of Lz use in the patients during the internment in this period, from the perspective of the Brazilian public health system. RESULTS: The medical records of 61 patients were evaluated. Of all patients, 50 were male and 11 were female, with a mean age of 43.2 ± 17.6 years. Of all patients, 43 (70.5%) were treated with Lz monotherapy. Infections with Lz lasted 10.6 ± 4.7 days. The antibiotic was present in 65.6% of the records in 50.8% of cases, the bacteria were sensitive to linezolid. The main reason for the use of antibiotics was sepsis and nosocomial pneumonia (54.4% each). Sixteen (26.2%) patients met the criteria for changing the route of administration of the antimicrobial therapy. The most frequent pathogens were Staphylococcus aureus (24.6%), Enterobacter cloacae (24.6%) and Acinetobacter baumannii (12.2%). The majority of linezolid use was attributed to patients with catheter-related bloodstream infections (84.8%). The average number of days of treatment with Lz was 6.4 ± 2.5 days. CONCLUSIONS: The purpose of this study was to evaluate the pharmacoeconomic impact of Lz in a Brazilian public hospital in an attempt to guide the use of the drug. The majority of the patients evaluated were treated with Lz monotherapy with a mean hospital stay of 10.6 ± 4.7 days. A cost-minimization analysis is a very important tool to guide public health decisions.