three years (iPREG trial). The study objective was to estimate the cost-effectiveness of PrEP before combination ART initiation from the US payer perspective using both short-run and long-run outcomes. METHODS: We designed a decision-analytical model using Excel® 2013 that mimicked the iPREG trial environment to compare costs and outcomes of PrEP plus usual care versus usual care alone (i.e., outcomes included HIV cases averted over the trial period of 3 years and life years gained (LYG) over a lifetime time horizon. Since the adherence of PrEP was an important outcome measure in the trial, we factored in the PrEP adherence rate to the acquisition pill, which was lower than the model. condom effectiveness was defined as probability of remaining HIV negative, assuming consistent condom usage. All costs were adjusted to 2014. RESULTS: From our base-case analysis, the treatment arm (PrEP plus usual care) resulted in an incremental cost of $3,169.78 per HIV case averted over a 3-year time frame and an incremental cost of $34,973.50 per LYG over a lifetime time horizon. Our one-way sensitivity analysis suggested that condom effectiveness below 92% can make PrEP less cost-effective in adult populations. Furthermore, the incremental cost-effectiveness of PrEP is at least 50% if the payer is willing to pay a minimum of $45,000 to $50,000 per LYG. CONCLUSIONS: The short-run value of PrEP from the US payer perspective may be greater than their willingness-to-pay threshold, but in the long run, PrEP and test-and-treat strategies are cost-effective alternatives to the status-quo from a societal perspective. For HIV incidence among 15-65 year old MSM in LAC. An economic model uses the sAN14ive strategies are more costly but yield better effectiveness profiles, albeit with knowledge of infection status via testing, and the survival gains from early ART could be enhanced with greater adherence to ART and PrEP.

PIN55 ECONOMIC ANALYSIS OF EMPICICLICUS EUPHONICUS VESICULAR INFECTIOUS DISEASE IN CHINA

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OBJECTIVES: To examine the clinical and economic impact of diagnostic-driven (DD) versus empiric treatment strategies in neurotropic patients with suspected Aspergillosis in 3-7 infections (IFIs) in Beijing, Chengdu, and Guangzhou, China. METHODS: A decision-analytic model was used to estimate total costs and survival associated with a DD and empiric treatment strategy for managing suspected neurotropic Aspergillosis due to hematological malignancy or autologous/allogeneic stem cell transplantation. In the DD strategy, IFI was identified via serum galactomannan (GM) enzyme-linked immunosorbent assay (ELISA) so that early initiation of targeted treatment could be administered. IfI incidence, probability of survival, and a DD strategy was considered only 1% of the time. CONCLUSIONS: These results suggest that in China, a DD strategy to identify IFIs in immunocompromised patients with persistent fever in order to better target antifungal treatment compared to an empiric antifungal treatment strategy may be cost-saving, while maintaining a similar overall survival rate.

PIN56 ECONOMIC EFFECTIVENESS OF CETTAORALINE FOSAMOL FOR THE TREATMENT OF HOSPITALIZED PATIENTS WITH PNEUMOCOCCAL COMMUNITY-ACQUIRED PNEUMONIA FROM A SOCIETAL PERSPECTIVE

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Objective: We aimed to assess cost-effectiveness of cettoraline fosamol (CF) for treatment of hospitalized patients with pneumococcal community-acquired pneumonia (PCAP) in Russia from societal perspective. METHODS: Decision tree model based on results of two 3rd phase clinical trials (FOCUS1/FOCUS2) was created to assess clinico-economical implications of PCAP treatment with CF vs. ceftriaxone (CS) for society. Day 4 early clinical response (73% vs. 56%, p=0.03) was taken for efficacy in US and direct and indirect expenses associated with initial episode, possible recurrence of PCAP, direct and delayed attributable mortality were taken into consideration. Original drugs costs were extracted from wholesale prices database (www.farmak.ru). Cost of health care was calculated based on hospitalization regimens in selected trials: CF 600mg BID vs. CS 1g QD and common in Russia CS 2g QD. Alternative treatment in case of inefficacy was chosen per experts’ opinion. Inpatient treatment evaluation used Russian human capital approach (1.106 CF per capita) with 5% discount rate per year. All expenses were converted to US dollars at exchange rate on the date of calculation (June 2014). Uncertainty was explored in a series of one- and two-way deterministic and in probabilistic sensitivity analy- sıs. RESULTS: Respective total expenses of PCAP treatment with CF 600mg BID vs. CS 1g vs. 2g QD were as follows: $16548.65 vs. $16994.65 vs. $16972.3, making CF strategy the dominating one. Results were sensitive to changes in both economic and clinical parameters. Conclusion: In Russia, CF is more expensive than CS but was associated with a lower cost of health care.

PIN57 ECONOMIC IMPACT OF SIMULATION-BASED TRAINING (SBT) FOR CENTRAL VENOUS CATHETER (CVC) INSERTION

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OBJECTIVES: To examine the tradeoffs between the costs and benefits of choosing alternate HIV prevention strategies, including the status-quo (current HIV testing and treatment with antiretroviral therapy [ART] initiation at CD4 ≤ 500), testing (expanded HIV testing with ART initiation at CD4 ≤ 500), test-and-treat (expanded HIV testing and early ART start), and PrEP (PrEP initiation by uninfected individuals) strategies. METHODS: A mathematical epidemiological model is developed to simulate HIV incidence among 15-65 year old MSM in LAC. An economic model uses the epidemic model results to estimate the cost and effectiveness of 624 variants of the testing, test-and-treat and PrEP strategies from a societal perspective. For each strategy, we estimate the number of new HIV infections averted, the cost and quality-adjusted life years (QALYs), and the incremental cost-effectiveness ratios. The sensitivity and robustness of the estimates was assessed using univariate and bootstrapping probabilistic sensitivity analyses. RESULTS: In the base case analysis, test-and-treat, PrEP, and testing are highly cost-effective relative to the status-quo ($21,000, $26,000, and $27,500/QALY) and significantly reduce new infections and projected lifetime costs. Results are not sensitive to CD4 threshold when initiating ART, the cost of risk reduction counseling, voluntary circumcision, pre-exposure prophylaxis, and the survival gains from early ART implementation. CONCLUSIONS: The incremental cost-effectiveness of PrEP is highly sensitive to changes in GM test sensitivity followed by IFI incidence. Probabilistic sensitivity analysis showed the test and treatment strategy was the most cost-effective 90% of the time. CONCLUSIONS: These results suggest that in China, a DD strategy to identify IFIs in immunocompromised patients with persistent fever in order to better target antifungal treatment compared to an empiric antifungal treatment strategy may be cost-saving, while maintaining a similar overall survival rate.

OBJECTIVES: To examine the clinical and economic impact of diagnostic-driven (DD) versus empiric treatment strategies in neurotropic patients with suspected Aspergillosis in 3-7 infections (IFIs) in Beijing, Chengdu, and Guangzhou, China. METHODS: A decision-analytic model was used to estimate total costs and survival associated with a DD and empiric treatment strategy for managing suspected neurotropic Aspergillosis due to hematological malignancy or autologous/allogeneic stem cell transplantation. In the DD strategy, IFI was identified via serum galactomannan (GM) enzyme-linked immunosorbent assay (ELISA) so that early initiation of targeted treatment could be administered. IfI incidence, probability of survival, and a DD strategy was considered only 1% of the time. CONCLUSIONS: These results suggest that in China, a DD strategy to identify IFIs in immunocompromised patients with persistent fever in order to better target antifungal treatment compared to an empiric antifungal treatment strategy may be cost-saving, while maintaining a similar overall survival rate.

CONCLUSIONS: Decision tree model based on results of two 3rd phase clinical trials (FOCUS1/FOCUS2) was created to assess clinico-economical implications of PCAP treatment with CF vs. ceftriaxone (CS) for society. Day 4 early clinical response (73% vs. 56%, p=0.03) was taken for efficacy in US and direct and indirect expenses associated with initial episode, possible recurrence of PCAP, direct and delayed attributable mortality were taken into consideration. Original drugs costs were extracted from wholesale prices database (www.farmak.ru). Cost of health care was calculated based on hospitalization regimens in selected trials: CF 600mg BID vs. CS 1g QD and common in Russia CS 2g QD. Alternative treatment in case of inefficacy was chosen per experts’ opinion. Inpatient treatment evaluation used Russian human capital approach (1.106 CF per capita) with 5% discount rate per year. All expenses were converted to US dollars at exchange rate on the date of calculation (June 2014). Uncertainty was explored in a series of one- and two-way deterministic and in probabilistic sensitivity analy- sıs. RESULTS: Respective total expenses of PCAP treatment with CF 600mg BID vs. CS 1g vs. 2g QD were as follows: $16548.65 vs. $16994.65 vs. $16972.3, making CF strategy the dominating one. Results were sensitive to changes in both economic and clinical parameters. Conclusion: In Russia, CF is more expensive than CS but was associated with a lower cost of health care.
with an average patient age of 63.4 ± 15.8 years in the SBT group, and 81 patients placed 262 CVC in higher lines in patients with an average age of 62.2 ± 15.2 years in the control group. Compared to the traditional training, the SBT was a dominant case with a saving cost (-$5,062, p = 0.002), and reductions of overall complications (3.9%, p = 0.017) and severe complications (3%, p = 0.043) per admission, resulted in the incremental cost-effectiveness ratios of -$1,298 = [-5,062/3.9%] and -$1,687 = [-5,062/3.0%] per 1% averted probability of overall and severe complications gained, respectively. The total cost benefit ratio was 10.2. Even in the first year, the SBT demonstrated a high return on investment (ROI) of 64% with a $4,863 net benefit per admission. The ROI could reach 93.4% and 98% in 5 years and 10 years, respectively.

CONCLUSIONS: Using SBT for CVC insertion is a cost-effective approach that can be widely implemented.

PIN58 COST-EFFECTIVENESS OF ANIDULAFUNGIN FOR THE TREATMENT OF INVASIVE CANDIDIASIS IN COLOMBIA

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OBJECTIVES: The aim of this analysis is to estimate the cost-effectiveness of anidulafungin for the treatment of invasive candidiasis in Colombia. METHODS: We constructed a decision tree to determine the incremental cost-effectiveness ratio (ICER) of anidulafungin (200 mg on the first day, followed by 100 mg daily) compared to amphotericin B deoxycholate (0.7-1.0 mg daily), amphotericin B liposomal (5.0 mg/kg daily), caspofungin (70 mg on the first day followed by 50 mg daily) and fluconazole (800 mg on the first day followed by 400 mg daily) for the treatment patients with invasive candidiasis. RESULTS: The perspective of the Colombian health system including only direct costs. All currency units are in USD $. We used a time horizon of life expectancy. A 5% discount rate was used. The results are presented in a cost-effectiveness-adjusted life year (QALY). The efficiency, safety and utility data were taken from the literature. Bayesian mixed treatment comparison method was applied for the comparison of treatments. The costs of procedures were obtained from the national database of the Ministry of Health, the SISMED database. Univariate and probabilistic sensitivity analyses were performed. RESULTS: The total expected costs per patient were: anidulafungin USD$ 4,685.61, amphotericin B deoxycholate USD$ 928.22, amphotericin B liposomal USD$ 669.12; caspofungin USD$ 3,366.48; fluconazole USD$ 628.39. The results of each alternative in terms of QALY were: anidulafungin 3.08; amphotericin B deoxycholate 2.26; amphotericin B liposomal 1.90; caspofungin 2.14; fluconazole 2.46. The ICER per QALY of anidulafungin compared to fluconazole was USD$ 6,521.38. Amphotericin B deoxycholate, amphotericin B liposomal and caspofungin were dominated alternatives. CONCLUSIONS: Assuming as threshold for Colombia GDP per capita USD$ 7,609.42 anidulafungin is a cost-effective alternative for the treatment of the patients with invasive candidiasis.

PIN59 AN ECONOMIC COMPARISON OF LINEZOLID AND VANCOMYCIN FOR THE TREATMENT OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) RELATED COMPLICATED SKIN AND SKIN STRUCTURE INFECTIONS (CSSSI) IN THE KINGDOM OF SAUDI ARABIA

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OBJECTIVES: To assess the value of linezolid compared with vancomycin in the treatment of CSSSIs caused by MRSA from a payer perspective in the Kingdom of Saudi Arabia (KSA) using a two week decision analytic model. The model compared the incremental costs and outcomes for vancomycin and patient and outpatient settings related to both treatments. METHODS: Published literature and local expert opinion provided clinical inputs and resource utilization data on MRSA efficacy, failure/ AE rates, length of stay (LOS), at-home parenteral administration, and outpatient resource use. Cost data were derived from local sources and expert feedback. The base case analysis assumed equal efficacy for treatment comparators within the 14 day length of treatment timeframe. Scenario-based sensitivity analyses were conducted by varying LOS data, using unit LOS costs from World Health Organization website, and excluding peripherally inserted central catheter (PICC) costs. RESULTS: The base case analysis resembled a cost-minimization analysis due to an equal efficacy assumption. Total drug acquisition costs were lower for vancomycin when compared to linezolid (SAR1,885 vs. SAR7,641 respectively). However, the overall cost of treatment including drugs, clinical failures, complications, and outpatient parenteral administration were lower with linezolid (SAR14,246) than with vancomycin (SAR15,804) resulting in substantial cost-savings of SAR1,558 vs. vancomycin. Linezolid provided savings due to lower outpatient medical costs (SAR1,548 vs. SAR7,831), specifically from outpatient parenteral administration. These findings were reinforced in all of the scenario sensitivity analyses and linezolid was consistently the cost saving treatment alternative. CONCLUSIONS: Results from this analysis demonstrate the overall economic savings resulting from linezolid use compared with vancomycin for the treatment of MRSA CSSSI. Savings were consistent across these predominant and non-predominant scenarios and does not require outpatient parenteral administration compared to other intravenous antibiotics.

PIN60 COST-EFFECTIVENESS ANALYSIS OF OSILETAMIVIR IN THE INFLUENZA PNEUMONIA PREVENTION IN COLOMBIA

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OBJECTIVES: Influenza disease may result in a severe disease causing hospitalization and deaths in young children and older adults. Early antiviral treatment may improve clinical outcomes. Our goal was to estimate the oseltamivir cost-effectiveness in the prevention of pneumonia due to influenza in the Colombian population. METHODS: A probabilistic decision tree model was constructed to simulate Influenza-Like Syndrome (ILS) burden of disease and influenza pneumonia complications in Colombian population was programmed in excel. Transition probabilities and care costs for Colombia were obtained from a literature review and surveillance database of Osieltamivir effectiveness was meta-analyzed from randomized trials and observational studies. Incremental cost-effectiveness ratio (ICER) for oseltamivir in the prevention of pneumonia complication in population under 65 and older than 65 years old with ILS was estimated. Monte Carlo simulation with 10,000 iterations were used to estimate 95% confidence interval. Costs were expressed in 2013 USD. RESULTS: A total of 275,788 ILS cases in children and 86,675 in elderly population were estimated for 2014. Whi no oseltamivir would occur 75,789 and 62,689 pneumonias in children and elderly, respectively, and a total 27,719 deaths. Including the oseltamivir treatment at 90% coverage would aver 33,462 pneumonias and 6639 pneumonia deaths. The oseltamivir treatment cost were estimated USD$ 6,419,552. The cost savings of $300.4 M as compared to current practice. We projected 20,700 fewer cases of ILS in the treatment arm, due to fewer recurrences for CFT. The recurrence rates for current antibiotic treatment were estimated at 25% and 35% for first and second recurrences, respectively. The recurrence rate for CFT was 10.4%. Over 90% of the cost savings for CFT as compared to antibiotic treatment are for ages 60 and over to 79 at $1,277.3 M for age 80 and over at $148.3 M for ages 80 and over. By subpopulation, over the next five years it would result in a potential cost savings of $316.5 M for hospital-acquired CFT (HA-CFT) and $66.7 M for community-acquired CFT (CA-CFT). CONCLUSIONS: Introducing CFT could result in a substantial cost savings over the next five years in Canada. As the Canadian population ages, and the numbers of CFT cases among the elderly might grow, CFT holds the promise of higher potential cost savings.

PIN61 ECONOMIC IMPACT OF SOFOSBUVIR BASED REGIMENS IN HEPATITIS C: AN INTERNATIONAL PERSPECTIVE

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OBJECTIVES: Chronic hepatitis C virus (HCV) incurs significant economic costs to the society. There is a paradigm shift in the treatment of hepatitis C with the introduction of sofosbuvir. It is highly efficacious and safe but is an expensive treatment alternative to existing treatment options. The study goal is to provide an in-depth review of economic studies that have evaluated the cost-effectiveness of sofosbuvir in hepatitis C. METHODS: A comprehensive literature search was conducted using electronic databases such as PubMed, CINAHL, Scopus, and Cochrane Reviews. The search strategy included treatment-naive as well as treatment-experienced patients of all genotypes. Full-text, published articles from Europe and United States (U.S.) were identified. Data on decision model, perspective, comparators, time horizon, costs, outcomes, price sensitivity, analysis, and results were extracted from the reviewed studies. RESULTS: A total of 9 economic studies (5 U.S and 4 Europe) were identified from the literature. The comparators included no treatment, peginterferon-ribavirin, boceprevir, telaprevir, and simeprevir based regimens. Markov model utilized by all studies to simulate disease progression over a lifetime horizon. The cost/QALY for treatment-naive, patients ranged from USD$21,869-$31,512 for genotype 1 and US$7,146-$99,189 for genotype 2 and 3. The cost/QALY for treatment-experienced patients was US$2,277-$4290 for genotype 1 and US$855-$280 for genotype 2 and 3. Overall, sofosbuvir was cost effective in younger patients and those with severe fibrosis. Sofosbuvir and simeprevir combination led to an average cost savings of US$91,590. CONCLUSIONS: Genotype 1 is the most impacted genotype that is generally difficult to treat. Sofosbuvir is cost effective for both treatment-naive and treatment-experienced genotype 1 patients. For genotypes that are not predominant, decision on the use of sofosbuvir should be based on the willingness-to-pay threshold values. Factors that were found to influence cost-effectiveness of sofosbuvir include disease severity, duration of treatment, and age of patients.

PIN62 THE COST EFFECTIVENESS OF A NOVEL HIGH PRICED COMBINATION THERAPY FOR HEPATITIS C IN TREATMENT-NAIVE GENOTYPE 1 INFECTED PATIENTS

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