

METHODS: A decision analysis model was built based on efficacy measures obtained from published clinical trials. Local direct costs were estimated from a payer perspective using 2009 listed rates of drugs, general ward daily stay and intensive care daily stay (with and without mechanical ventilation). The used exchange rate was Col\$1968 per US\$ (January 2010). The time horizon was defined as a "censored discharge" (first to happen among death, discharge or stay until day 35 after therapy finishing). Effectiveness was measured in terms of clinical cure rates. A multivariate probabilistic sensitivity analysis was done through 1000 Monte Carlo simulations. An additional model was run including costs associated to the risk of pseudomona transmission. These costs were estimated through a Markov model based on the daily probability of transmission from an initial pseudomona-free state to contaminated or infected states with sensitive and resistant pseudomona strains. **RESULTS:** Average VAP direct costs were US\$ 9,912 for imipenem, US\$ 10,196 for meropenem and US\$ 9,020 for doripenem. Costs differences were mainly related to differences in the ICU stay, particularly time on mechanical ventilation (13, 13 and 10 days, respectively). Pseudomona transmission-related costs were US\$ 333; US\$ 332 and US\$ 191, respectively. Monte Carlo analyses showed that doripenem was more cost-effective than meropenem and imipenem in 95% and 91% of samples, respectively. Additionally, doripenem was dominant over meropenem and imipenem in 46% and 44% of samples, respectively. **CONCLUSIONS:** Initial treatment of VAP cases with doripenem is the most cost-effective alternative compared to other carapenems as imipenem and meropenem. This advantage is related to its effect diminishing the intensive care unit stay due to a reduction in time on mechanical ventilation.

PINI6

COST-EFFECTIVENESS ANALYSIS OF MICAFUNGIN VERSUS LIPOSOMAL AMPHOTERICIN B IN THE TREATMENT OF PAEDIATRIC PATIENTS WITH SYSTEMIC CANDIDA INFECTIONS

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OBJECTIVES: To evaluate the cost-effectiveness of micafungin versus liposomal amphotericin B (L-AMB) for first-line treatment of invasive candidiasis and candidaemia in paediatric patients in the intensive care unit (ICU) setting. **METHODS:** The economic model, designed to simulate a 2-week disease-management period from the perspective of the UK National Health Service, used data from a paediatric sub-study of a larger, double-blind, randomised trial of micafungin (2mg/kg) versus L-AMB (3mg/kg). Clinical outcomes included treatment success rates, mortality, treatment duration, dosing, discontinuations, and adverse events (AEs). Medical costs included acquisition of study drugs, treating drug-related AEs, and hospital length of stays. **RESULTS:** Overall treatment success rates were similar, 73% (35/48) and 76% (38/50) in the micafungin and L-AMB arms, respectively; discontinuation rates owing to AEs were lower with micafungin, 4% (2/52) compared to 17% (9/54), for L-AMB. Average treatment costs were lower (£19,573) in the micafungin versus L-AMB (£22,931) groups; the vast majority of these costs were associated with hospitalisation (£18,466 and £22,073, respectively), driven by difference in ICU stay. Sensitivity analyses showed the results were robustly consistent over a wide range of variables but sensitive to length and cost of stay in a paediatric ICU and probability of survival. **CONCLUSIONS:** Micafungin is a cost-effective treatment option compared to L-AMB in the management of invasive candidaemia and candidiasis in paediatric patients

PINI7

COST-EFFECTIVE ANALYSIS OF BEHAVIORAL INTERVENTIONS UTILIZING MEMS FOR ANTIRETROVIRAL MEDICATION ADHERENCE

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OBJECTIVES: This study conducted cost-effective analysis of compliance-enhancing behavioral interventions for highly active antiretroviral therapy (HAART) patients. Behavioral interventions, especially concerning costs and adherence associated with observed therapy and use of medication event monitoring systems (MEMS), are currently poorly covered in the existing literature. **METHODS:** Cost-effective analysis of Project MOTIV8 (R01MH68197) was conducted on 204 HIV+ patients in Kansas City from 2004 to 2008. The study randomized patients into one of three arms: control, enhanced counseling (EC), and EC plus observed therapy (OT). This study identified and analyzed time, direct and indirect costs associated with conducting randomized clinical trials (RCT) of motivational interviewing-based behavioral interventions to enhance HAART adherence. Adherence cutoff was set at ≥80% compliance to HAART. The quality adjusted life values were adapted from previous literature. TreeAge® Pro2009 was used to create decision trees, cost-effectiveness models and sensitivity analysis. ICER and net benefit was calculated based upon a willingness to pay of \$50,000/QALY. **RESULTS:** The direct cost was \$125,799(\$616/patient) and training cost was \$9,710(\$48/patient). The total time cost associated with the recruitment effort came to \$245,626(\$1,204/patient) and evaluation of questionnaires and all patient/professional interactions for all 204 patients was \$243,632(\$1194/patient). Motivational interviewing costs for 134 EC patients came to \$271,133(\$2023/patient) and \$148,570(\$2321/patient) for 64 OT patients. Total cost per patient: Control = \$3062, EC = \$5085, EC + OT = \$7406. ICER found that EC and EC/OT were dominated. EC was \$38/QALE(month) and EC/OT was \$56/QALE(month). Net benefit analysis showed that 59% of the patients in EC have to be adherent in order to be equivalent. **CONCLUSIONS:** This study helps to fill in knowledge gaps associated with behavioral interventions on HIV patients, especially concerning costs and

adherence associated with observed therapy and use of MEMS. This economic analysis can serve as a guide for clinicians and policymakers in determining cost-efficient treatment strategies for patients with HIV.

PINI8

COST-EFFECTIVENESS OF UNIVERSAL INFLUENZA VACCINATION IN THE US

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OBJECTIVES: We evaluated the cost-effectiveness of a policy of universal influenza vaccination across the US population, compared with the current approach of vaccinating selected age and risk groups. **METHODS:** We modeled costs and outcomes of seasonal influenza under a policy of universal vaccination compared with current policy, taking a societal perspective. The population was stratified to model age-specific (<5, 5–17, 18–49, 50–64, and 65+ years) vaccination coverage assumptions, vaccine efficacy, and risks of influenza complications. Probability of influenza-related illness (ILI) and complications, associated health care utilization, direct and indirect costs, and survival were estimated for each policy. Model inputs were derived from published literature and public sources. No herd effects were considered. For a season's intervention, ILI cases in that year and lifetime costs and QALYs lost were calculated for each policy and used to derive incremental cost-effectiveness ratios for the overall US population. One-way and probabilistic sensitivity analyses (PSA) were conducted. **RESULTS:** In base-case analysis, current policy led to 63 million ILI cases per year, resulting in loss of 857,000 QALYs and costs of \$115 billion (both discounted at 3% annually; costs in 2008 USD), while universal vaccination resulted in 61 million cases, 826,000 QALYs lost, and \$112 billion in costs. Universal vaccination dominated current recommendation, costing \$3 billion less and averting 2 million cases, resulting in 31,000 fewer QALYs lost. Results were most sensitive to the percentage of unvaccinated adults developing ILI and coverage assumptions with universal policy. PSA indicated considerable uncertainty of results, with universal coverage was dominant in 54%, and dominated in 20%, of iterations. **CONCLUSIONS:** Our results indicate that a recommendation in of universal vaccination in the US is likely to result in lower costs and improved outcomes compared with current recommendation, and that this likelihood depends on seasonal attack rates and coverage assumptions.

PINI9

A PHARMACOECONOMICS ANALYSIS OF ERTAPENEM VS SEVERAL ANTIBIOTICS USED FOR THE TREATMENT OF COMMUNITY-ACQUIRED INTRA-ABDOMINAL INFECTIONS AT THE SOCIAL SECURITY MEXICAN INSTITUTE

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OBJECTIVES: Community-acquired intra-abdominal infections are serious conditions and expensive events. The purpose of this study was to develop an economic model in order to evaluate the cost-effectiveness ratios between ertapenem and the patterns of antibiotics used routinely in the treatment of community-acquired intra-abdominal infections at the Social Security Mexican Institute (IMSS) from the health care payer's perspective. **METHODS:** A cost-effectiveness analysis was developed using a Bayesian decision-tree model. The model simulates costs and effectiveness outcomes in a 4-week period. The comparators were: ertapenem (1g daily); metronidazole (500mg every 8h)/amikacin (1g every 12h); metronidazole (500mg every 8h)/cefotaxime (1g every 8h); metronidazole (500mg every 8h)/ciprofloxacin (500mg every 12h); metronidazole (500mg every 8h)/ceftriaxone (1g every 12h). Resource use and cost data were obtained from clinical records (n = 53) of patients being treated at second-level hospitals at IMSS. Effectiveness measures were the percentage of clinical success without adverse events (AE) at the end of the follow-up period. Effectiveness data and transition probabilities were taken from international published literature and were adjusted according to the antimicrobial susceptibility identified locally. The model was calibrated according to international pharmacoeconomics guidelines. One-way and probabilistic sensitivity analyses were performed using Monte Carlo Simulation second-order approach. **RESULTS:** Patients who received ertapenem experienced 74.4% of clinical success without AE, followed by metronidazole/amikacin (52.6%) and metronidazole/cefotaxime (40.6%). Mean cost per patient was lower for ertapenem (US\$6,293.98) followed by metronidazole/amikacin (US\$6,830.78) and metronidazole/cefotaxime (US\$8,511.03). Regarding the ICER's, ertapenem resulted the dominant therapy. Acceptability curves showed ertapenem as the most cost-effective therapy achieving values close to 100% independently of IMSS willingness to pay. **CONCLUSIONS:** The results showed that in México, ertapenem was the most cost-effective antibiotic therapy for community-acquired intra-abdominal infections. These results should be taken into account by Mexican decision makers.