Abstracts

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nomic model in order to evaluate the cost-effectiveness ratios between erapenem and the patterns of antibiotics routinely used for the treatment of diabetic foot 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. This model simulates costs and effectiveness outcomes in a 4-week period. The comparators were: erapenem (1 g daily); metronidazole (500 mg every 8 h)/efcoxacin (1 g every 12 h); metronidazole (500 mg every 8 h)/efcoxacin (500 mg every 12 h); metronidazole (300 mg every 8 h)/ciprofloxacin (500 mg every 12 h). Resource use and cost data were obtained from hospital (second level) records of 104 of treated patients. 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 resistance patterns identified locally. This 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 erapenem experienced 62.7% of clinical success without AE, followed by metronidazole/efcoxacin (23.9%) and metronidazole/efcoxacin (17.8%). Mean cost per patient were lower for erapenem (US$4306.46) followed by metronidazole/efcoxacin (US$8014.93) and metronidazole/efcoxacin (US$8625.11). Based on ICER’s erapenem resulted as the dominant therapy. Acceptability curves showed erapenem as the most cost-effective therapy closer to 100% independently of IMSS willingness to pay. CONCLUSIONS: The results show that in México, erapenem is the most cost-effective antibiotic therapy for diabetic foot infections. These results should be taken into account by Mexican decision makers for the management of this complication in patients with Diabetes Mellitus.

PIN26

COST EFFECTIVENESS ANALYSIS TO TREAT LATENT TUBERCULOSIS INFECTION: COMPARING ISONIAZID, RIFAMPIN AND RIFAMPIN/PYRAZINAMIDE
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OBJECTIVES: Case of latent tuberculosis has increased over the years as many from developing countries travel to the US. This study compared three CDC-recommended regimens (isoniazid, rifampin, and rifampin-pyrazinamide) for latent tuberculosis by conducting a cost-effectiveness analysis taking into consideration adherence rates and incidence of adverse drug events. METHODS: A systematic literature review pertaining to cost-effectiveness studies involving these three regimens from 1990 to 2009 was conducted using Pubmed. A decision tree model was developed to infer the most cost-effective regimen using data form randomized clinical trials. Cost in the model included drug cost, primary physician visit cost, follow up physician visit cost, and adverse drug events costs and were obtained from published literature. Rash and hepatotoxicity were the adverse events considered in the model as these are highly associated with these treatment regimens. Completion rate (adherence to the medication regimen) was the outcomes evaluated. One-way sensitivity analyses were conducted by varying various costs by 10% to check for the robustness of the model. RESULTS: The base-case analysis revealed rifampin-pyrazinamide to be the most cost-effective regimen. The one-way sensitivity analysis indicated the results to be robust. The total cost for treatment with isoniazid was $1360.53, rifampin was $1137.31, and rifampin-pyrazinamid combination was $978.69. The adherence rate to isoniazid treatment was 53% as compared to rifampin and rifampin-pyrazinamide which was found to be 70% and 81% respectively. Rifampin-pyrazinamide associated with hepatotoxicity (4%) as compared to isoniazid (1.5%) and rifampin (3%) which results in the ICER for switching the treatment regimen to isoniazid was $86.87 and to rifampin was $237.02. CONCLUSIONS: These analyses based on the data from randomized clinical trial, shows that rifampin-pyrazinamide was indicated to be the cost effective treatment for patients with latent TB, as compared to isoniazid and rifampin alone.

PIN27

COST-EFFECTIVENESS ANALYSIS OF THE THERAPY FOR THE INVASIVE ASPERGILOSIS IN COLOMBIA
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OBJECTIVES: Invasive aspergillosis (IA) is the most common cause of infective pneumonic mortality and represents high economic impact for patients undergoing allogeneic hematopoietic stem cell transplantation and cancer, besides, it is an exhibiting at least 65% probability to be cost-effective regarding competing alternatives. METHODS: A decision tree (validated by one oncologist and three infectologists) was designed to assess cost-effectiveness of the two medications. The model simulated costs and effectiveness in a temporal horizon of 14 weeks. Effectiveness and outcome measures were defined as rate of survival and life-years gained (LYs) respectively. Clinical efficacy, adverse drug-limited probabilities were obtained by systematic literature review of randomized controlled trials, which estimated direct costs associated with IA treatment (antifungal drugs, hospitalization, and costs associated with adverse events). Medical costs from 3 major Colombian cities were used; drug costs were taken from a standard costing source. Incremental cost per successfully treated patient (ICERs), one and two-way sensitivity analyses (varying clinical success rates and costs of anti-fungics) were performed for testing model's robustness. RESULTS: Patients treated with VORI experienced the highest outcomes (1.20 LYS) followed by AMB (0.83 LYS). Mean cost per patient was lower for AMB (US$4829) followed by VORI (US$7070). The C/E Rate was better for VORI (US$5986) compared to AMB (US$7036). Based on ICERs, VORI was cost-effective compared to AMB (ICER US$ 4374) when the willingness to pay threshold is US$8200 and over per patient (1 GDP per capita). CONCLUSIONS: Voriconazole represents the cost-effective treatment of choice when compared to amphotericin B deoxycholate for Invasive Aspergillosis in immunocompromised patients in Colombia.

PIN28

COST-EFFECTIVENESS ANALYSIS OF CHANGING FROM LIVE ORAL POLIOVIRUS VACCINE TO INACTIVATED POLIOVIRUS VACCINE IN COLOMBIA
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OBJECTIVES: To estimate the cost effectiveness of changing from live oral poliovirus vaccine to inactivated poliovirus vaccine in Colombia. METHODS: A review of scientific literature on Vaccine-Associated Paralytic Poliomyelitis from Latin America was made. An analysis of Vaccine-Associated Paralytic Poliomyelitis from data from Colombia was also realized. A Markov model was constructed to estimate the cost-effectiveness of the two strategies in two cohorts of children ranging from birth to 2 years of age. RESULTS: The model compared the costs and QALYs of live oral poliovirus vaccine to inactivated poliovirus vaccine in the two cohorts. RESULTS: Between 1988 and 1998 there were 9 detected cases of Vaccine-Associated Paralytic Poliomyelitis, for a rate of 1 per 1.6 millions in the first dose, and 1 per 2.5 millions of total administered doses. The introduction of the inactivated poliovirus vaccine (IPV) Vaccine-Associated Paralytic Poliomyelitis every two years, and it would prevent 64 DALY’s in each cohort of vaccinated children. Incremental cost-effectiveness ratio would be US$71,662 per DALY averted. CONCLUSIONS: Vaccination with inactivated poliovirus vaccine is not cost-effective even assuming a substantially greater incidence of Vaccine-Associated Paralytic Poliomyelitis, this given a GDP per capita of US$8,500 in 2008.

PIN29

COST-EFFECTIVENESS OF THE SEQUENTIAL USE OF ANIDULAFUNGIN AND ORAL VORICONAZOLE IN THE TREATMENT OF INVASIVE CANDIDIASIS IN NON-NEUTROPENIC PATIENTS IN MEXICO
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OBJECTIVES: Invasive candidiasis (IC) is associated with increased morbidity and mortality of hospitalized patients, as well as in treatment costs, which has a negative impact on institutional budgets. Therapeutic programs in which patients are switched from intravenous (IV) to oral formulations have the potential of costs reduction regarding IV alone/namidem composites of this study was to estimate the economic and health consequences of IC treatment in non-neutropenic adult patients using an anti-fungal sequential strategy, from the Instituto Mexicano del Seguro Social (IMSS) perspective. METHODS: A cost-effectiveness analysis was developed using a decision tree model estimated from rifampin-pyrazinamide regimen to IC group. The treatment regimen was compared with two therapies: intravenous (IC) and oral voriconazole and fluconazole. The probabilities were taken from international pharmacoeconomics guidelines. One-way and two-way sensitivity analyses (varying clinical success rates and costs of antifungics) were performed for testing model's robustness. RESULTS: Patients treated with VORI experienced the highest outcomes (1.20 LYs) followed by AMB (0.68 LYs). These analyses based on the data from randomized clinical trial, shows that voriconazole-pyrazinamide was indicated to be the cost effective treatment for patients with latent TB, as compared to isoniazid and rifampin alone.

PIN30

CLINICAL AND ECONOMIC IMPACT OF 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINATION IN SINGAPORE AND HONG KONG
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OBJECTIVES: To determine the cost-effectiveness of 13-valent pneumococcal conjugate vaccine (PCV13) versus 7-valent pneumococcal conjugate vaccine (PCV7) and versus 10-valent pneumococcal conjugate vaccine (PCV10) in preventing pneumococ-