

A COST—EFFECTIVENESS ANALYSIS MODEL FOR TREATMENT OF CANDIDIASIS AND INVASIVE ASPERGILLOSIS IN MEXICO

Mould Quevedo JE, Contreras I, García—Contreras F, Nevarez A, Constantino—Casas P, Garduño J

Social Security Mexican Institute, México D.F, México D.F, Mexico

OBJECTIVES: The purpose of this research is to estimate the incremental cost–effectiveness ratio (ICER) in Mexican patients with candidiasis and aspergillosis treated within voriconazole, amphotericin B and caspofungine. **METHODS:** It has been carried out a cost–effectiveness analysis based on a decision model represented with a decision tree describing multiple therapeutic options together with the obtained clinical results and the associated costs. The data come from clinical literature for treatment of candidiasis and invasive aspergillosis in immunodepressed patients. Effectiveness measure was the number of patients with therapeutic success. Costs were taken from hospital records and expert opinion. The perspective was that of the National health provider (only direct medical costs) and the time horizon of the research is of 3 months. The sensitivity analysis was probabilistic and acceptability curves were constructed. **RESULTS:** On a deterministic analysis, three months expected medical care costs per patient with candidiasis were: US\$42,743 for caspofungine, US\$30,972 for voriconazole and US\$36,736 for amphotericin B. The costs per patient with aspergillosis were: US\$49,962 for caspofungine, US\$57,378 for voriconazole and US\$72,834 for amphotericin B. From a hypothetical patient cohort of 1,000 patients with candidiasis, the ICER was US\$272,597 when voriconazole was used against amphotericin B (US\$ 272.6 per patient). The ICER in the aspergillosis model was US\$206,071 when voriconazole was used against amphotericin B (US\$ 206.1 per patient). Acceptability curves showed that voriconazole was the antifungal treatment most cost-effective in comparison with the two other treatments with a mean of 70% of certainty (with independence of the willingness to pay amount). **CONCLUSIONS:** The use of voriconazole in the treatment of candidiasis and invasive aspergillosis is a more cost–effective therapeutic alternative than amphotericin B and caspofungine, therefore, voriconazole should be the option to be used as the first line treatment in the Mexican health system.

PIN11

INFANTILE GASTROENTERITIS IN THE COMMUNITY: A COST OF ILLNESS STUDY

Lorgelly PK¹, Joshi D¹, Iturriza Gómara M², Flood C³, Hughes CA⁴, Dalrymple J⁵, Gray J², Mugford M¹

¹University of East Anglia, Norwich, Norfolk, UK; ²Health Protection Agency, London, London, UK; ³City University, London, London, UK; ⁴Fakenham Medical Practice, Fakenham, Norfolk, UK; ⁵Drayton Surgery, Norwich, Norfolk, UK

OBJECTIVE: To assess the economic burden of gastroenteritis and, in particular, rotavirus-associated disease among children aged five years old and under, from the perspective of the health service, parents and society. **METHOD:** Over a period of three rotavirus seasons, stool samples were collected from 223 children who presented at GP surgeries with diarrhoea and vomiting. Parents were asked to complete a questionnaire detailing severity of illness, health care resource use, personal medical expenses, changes in child care patterns and associated costs, and lost income due to their child's illness. Data were analysed as a whole to establish the cost of illness of gastroenteritis and separately in terms of rotavirus and other viral strains. **RESULTS:** A total of 48% of the sample had rotavirus acute gastroenteritis;

PIN12

a further 21% had other virus-associated gastrointestinal disease. The average total cost of a child presenting with gastroenteritis and rotavirus-gastroenteritis ranged between £60–£176 and £59–£169 per episode, respectively, depending on the perspective. The annual cost of 'normal' childhood illness was estimated to be between £205 and £323. Given the prevalence and severity of the disease, the estimate additional burden of gastroenteritis to society is £75.2 million per year, and for rotavirus gastroenteritis it is £57.2 million per year. **CONCLUSIONS:** Due to the nature and prevalence of rotavirus the total burden of illness is considerable. As well as being a major inconvenience to parents and children, it would appear that there is a considerable amount of cost shifting between the health service, parents and society. Some of the economic cost of the illness may be constrained with an immunisation programme; work is currently being undertaken to model the cost effectiveness of vaccination within the UK context.

PIN13

ANNUAL COST FOR THE TREATMENT OF PATIENTS HOSPITALIZED WITH METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS IN THE UNITED STATES

Rojas EG, Liu LZ

Pfizer Global Pharmaceuticals, New York, NY, USA

OBJECTIVES: To estimate the nationwide annual cost for the treatment of patients hospitalized with methicillin-resistant *Staphylococcus aureus* (MRSA) infections in the United States. **METHODS:** An extensive literature search was conducted in order to identify recent studies estimating the direct medical costs associated with MRSA infections in US hospitals. The range of the annual cost of MRSA infections was constructed by multiplying the estimated number of annual discharges due to MRSA infections by the highest and lowest cost per case estimates of MRSA bacteremia and *S aureus* pneumonia infections. **RESULTS:** CDC estimated that in 2000 approximately 290,000 US patients were hospitalized with an *S aureus* infection and that 41.5%, or 120,000 of these were MRSA infections. The most common types of MRSA infections are skin and skin structure infections (SSSI), bacteremia, and lower respiratory tract infections. Abramson and Sexton estimated the direct medical costs associated with MRSA bacteremia to be \$27,083 per case. Engemann et al. estimated the direct medical costs associated with an SSSI due to MRSA to be \$28,308 per case. Rubin et al. estimated the direct medical costs associated with *S aureus* pneumonia to be \$34,900 per case. The average cost of an MRSA-related infection, based on cited studies, ranged from \$27,083 to \$34,900 per case. Assuming 120,000 annual MRSA infection related hospital discharges, we estimate that the annual nationwide cost for the treatment of patients hospitalized with an MRSA infection in the US to be in the range of \$3.2 billion to 4.2 billion. **CONCLUSION:** The annual cost for the treatment of MRSA infections incurs a significant economic burden on the US health care system. Strategies to minimize hospital costs relating to MRSA infection should be critical to the management of this economic burden placed on US hospitals.

PIN14

OUTPATIENT COMMUNITY-ACQUIRED PNEUMONIA IN NON-ELDERLY ADULTS: UTILIZATION AND COST

Rose J¹, Asche CV², Singer ME¹

¹Case School of Medicine, Cleveland, OH, USA; ²University of Utah, Salt Lake City, UT, USA

OBJECTIVE: To examine utilization and cost of services in the outpatient treatment of community-acquired pneumonia (CAP) among non-elderly adults. **METHODS:** We analyzed claims