**Abstracts**

expectancy and QALYs compared to CPI/r + OB with an incremental cost per additional year of life gained of $51,058 and the incremental cost per QALY of $52,517.

**PIN16**

**COST-EFFECTIVENESS OF POSACONAZOLE VS. FLUCONAZOLE IN THE PROPHYLAXIS AGAINST INVASIVE FUNGAL INFECTIONS IN PATIENTS WITH GRAFT-VERSUS-HOST DISEASE IN CANADA**

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**OBJECTIVE:** Invasive fungal infections (IFIs) have emerged as the major infection-related cause of morbidity and mortality in patients undergoing transplantation. A recent RCT in allogeneic hematopoietic stem cell transplantation (HSCT) recipients with grade 2-4 or extensive chronic graft-versus-host disease compared the efficacy of posaconazole and fluconazole in the prevention of IFIs. At the end of the fixed 112-day treatment period, posaconazole was as effective as fluconazole in preventing IFIs (5% vs. 9%); significantly reduced breakthrough Aspergillus infections (2% vs. 7%; p = 0.0059); and decreased IFI-related mortality (1% vs. 4%; p = 0.0413). We evaluated posaconazole cost-effectiveness from the Canadian health care system perspective.

**METHODS:** A trial-based decision-analytic model was developed. The probabilities of experiencing an IFI, IFI-related death, and death from other causes over 112 days post treatment were estimated. To extrapolate results beyond the trial, the model was extended to a lifetime horizon using 1-month Markov cycles in which mortality rate was specific to the underlying disease obtained from clinical data. Pharmacotherapy and IFI-related costs were estimated using published literature. The model was used to estimate costs, life-years saved (L YS), and the incremental cost-effectiveness ratio (ICER) of posaconazole vs. fluconazole (2007 CND$).

**RESULTS:** Posaconazole appeared to be more effective with increased L YS (7.95 vs. 7.81) however, more costly ($16,784 vs. $11,760) than the alternative over a lifetime horizon. The ICER of posaconazole was $34,668/L YS compared to fluconazole ($16,784 vs. $11,760) than the alternative over a lifetime horizon.

**CONCLUSION:** Based on this decision model, linezolid was the most cost-effective strategy compared to vancomycin primarily because of shorter IV duration and higher responder probability.

**PIN17**

**DECISION ANALYTIC MODEL EVALUATING THE COST-EFFECTIVENESS OF LINEZOLID VERSUS VANCOMYCIN IN METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS COMPLICATED SKIN AND SOFT TISSUE INFECTION**

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**OBJECTIVE:** To evaluate the cost-effectiveness of vancomycin versus linezolid in complicated skin and soft tissue infections (cSSTIs) with methicillin-resistant Staphylococcus aureus (MRSA) using a decision analytic (DA) model. **METHODS:** A decision model was created to evaluate the cost-effectiveness of vancomycin and linezolid in the treatment of MRSA cSSTIs. Outcome probabilities were determined from published clinical trials. The main dependent variables of interest were: total direct costs, cost-effectiveness ratios (CER), and incremental cost-effectiveness ratio (ICER). Univariate (one-way) sensitivity analyses were conducted for all probabilities and costs used in the model. Second-order Monte Carlo simulation (probabilistic sensitivity analysis) using 10,000 samples was also performed to test for robustness, and an acceptability curve was plotted along a willingness to pay axis.

**RESULTS:** The DA model predicted that linezolid was the most cost-effective strategy from the base-case analysis. Average CER for linezolid and vancomycin were $11,089.70 (USD/cure) and $16,299.75 (USD/cure), respectively. Univariate sensitivity analyses revealed that vancomycin IV duration and linezolid responder probability were sensitive across the range. Other parameters did not significantly change the base-case result. Probabilistic sensitivity analysis showed that a majority of the points favored linezolid being dominant over vancomycin. Acceptability curve showed a 95% probability that linezolid was the most cost-effective strategy with a willingness to pay up to 200,000 (USD)/cure, respectively. CONCLUSION: Based on this decision model, linezolid was the most cost-effective strategy compared to vancomycin primarily because of shorter IV duration and higher responder probability.

**PIN18**

**THE IMPACT OF PEDIATRIC ADVERSE EVENTS ON THE COST-EFFECTIVENESS OF OSELTAMIVIR**

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**OBJECTIVE:** Oseltamivir has been shown to reduce the duration of influenza symptoms in children, but recent reports of neuropsychiatric adverse events deserve consideration. This study investigated the effect that these adverse events have on the estimated cost-effectiveness of oseltamivir treatment in children.

**METHODS:** A decision analytic model was developed to project the costs and effectiveness of three clinical options for otherwise healthy five to eleven year old children with influenza-like illness: no antiviral treatment, rapid testing for influenza and treatment with oseltamivir if test is positive, and empirical oseltamivir treatment. The main outcome measure was the incremental cost-effectiveness ratio (ICER) of each intervention, in dollars per quality adjusted life year (QAL Y) gained. Deterministic and probabilistic sensitivity analyses were performed to quantify the effects of parameter uncertainty. **RESULTS:** In the base case analysis, which assumed neuropsychiatric adverse events occurred in 0.065% of treated patients, the test and treat strategy led to an ICER of $30,800 (95% CI: $12,700 to $207,700) per QALY gained, compared to no antiviral treatment. Empirical treatment was a more costly, but more effective strategy, with an ICER of $62,500 (95% CI: cost-saving to $2,138,300) per QALY gained. When the probability of neuropsychiatric adverse events was increased to 10 times the baseline estimate (6.5%), the test and treat strategy led to an ICER of $32,300/QALY, while empirical treatment was associated with an ICER of $75,000/QALY. These ratios increased to $53,300 and $410,000, respectively, when this adverse event rate was raised to 100 times its baseline value (6.5%).

**CONCLUSION:** Despite recent concern surrounding the risk of neuropsychiatric adverse events, the use of oseltamivir is projected to remain a cost-effective treatment option in this pediatric population. This conclusion is robust to substantial increases in the likelihood of these events, particularly when oseltamivir is used in conjunction with rapid testing for influenza.