A COST-EFFECTIVENESS ANALYSIS OF NATALIZUMAB VS. INTERFERON-BETA AND GLATIRAMER ACETATE IN PATIENTS WITH ACTIVE RELAPSING-REMITTING MULTIPLE SCLEROSIS CURRENTLY FAILING ON EXISTING THERAPY

Gani R1, Samuels ER2, Hughes S3, Giovannoni G4
1Heron Evidence Development Ltd, Hertfordshire, UK, 2Heron Evidence Development Ltd, Letchworth Garden City, Hertfordshire, UK, 3Biogen Idec Ltd, Maidenhead, Berkshire, UK, 4Barts and The London School of Medicine and Dentistry, London, UK

OBJECTIVE: Natalizumab is a new disease modifying therapy currently licensed for use in patients with relapsing-remitting multiple sclerosis (RRMS), and has recently been the subject of a cost-effectiveness evaluation by the National Institute for Health and Clinical Excellence (NICE) in the UK. NICE accepted that natalizumab was cost-effective in a highly-active subgroup of RRMS patients, but not in all patients failing on current therapy (sub-optimal therapy, SOT patients). In the SOT patients, the basecase ICERs exceeded £43,400 and NICE essentially concluded that natalizumab would not be a cost-effective use of NHS resources in these patients unless they were having two or more relapses per year. However, NICE recognised that the evaluation may have underestimated the incremental QALY in two areas.

METHODS: We re-evaluated the ICERs for natalizumab vs. interferon-beta and glatiramer acetate in SOT patients taking into account the points raised by NICE. METHODS: The original model submitted to NICE was a 20-year markov-model parameterised for the UK from a direct health care perspective. Disutilities for relapse were updated using values from a previous UK Health Technology Assessment, and the cost of relapse was changed in line with contemporary studies. The time-horizon for the model was extended from 20 years to 30 years. RESULTS: The ICER from a direct medical costs perspective for natalizumab vs. interferon-beta was £29,900 per QALY. For natalizumab vs. glatiramer acetate the ICER was £29,300 per QALY. CONCLUSION: The European Medicines Evaluation Agency has approved natalizumab for use in highly active RRMS, including SOT patients. Given the willingness-to-pay threshold of £30,000 per QALY commonly associated with NICE guidance, the results here show that natalizumab is a cost-effective treatment for all patients failing on current therapy in the UK.
level. The primary outcome was the cost per additional quality adjusted life year (QALY). The incremental cost per additional pain-controlled day was a secondary economic outcome. Sensitivity analyses were conducted to investigate the robustness of the results. **RESULTS:** The total direct cost of treatment over one-year was $12,691 for Sativex® + SAC and $3,340 for SAC. The total QALYs for Sativex® + SAC were 0.3793 and 0.2459 for SAC. The ICUR for Sativex® + SAC compared to SAC was $70,103/QALY. The number of pain controlled days over a one-year time horizon was 196 for Sativex® + SAC and 122 for SAC. Cost drivers were Sativex® utilization (5 daily sprays = $36,512/QALY, 11 sprays = $80,327/QALY). The incremental cost per pain-controlled day was $127. **CONCLUSION:** Results indicated that Sativex® + SAC was more expensive than SAC, but provided increased QALYs and pain-control in MS patients with neuropathic pain.

**PND15**

**COST-UTILITY OF INTERFERON BETA-1B IN THE TREATMENT OF PATIENTS WITH A CLINICALLY ISOLATED SYNDROME SUGGESTIVE OF MULTIPLE SCLEROSIS**

*Caloyeras JP, Wang C, Bauer L, Lee WC, Lanius V, Gondek K*  
1Abt Associates Inc, Lexington, MA, USA, 2Bayer Pharmaceuticals Corporation, Montville, NJ, USA, 3Bayer Schering Pharma AG, Berlin, P300, Germany, 4Abt Associates Inc, Bethesda, MD, USA, 5Bayer Pharmaceuticals Corporation, West Haven, CT, USA

**OBJECTIVE:** To estimate the cost-utility of interferon beta-1b (IFNβ-1b) in the treatment of patients with a clinically isolated syndrome (CIS) suggestive of multiple sclerosis (MS). **METHODS:** We developed a Markov model of the epidemiology and treatment of CIS and MS. The model allows users to vary key model parameters. RESULTS: Use of IFNβ-1b was associated with slower EDSS progression (hence, longer time to MS diagnosis), and reduced relapse burden. In the base case (Australian perspective; 25-year simulation), incremental cost-utility of IFNβ-1b versus no treatment was AUD$58,600 (USD$51,400) per quality-adjusted life year (QALY) gained. Findings were sensitive to years simulated, IFNβ-1b cost and treatment effect, and underlying rate of disease progression. **CONCLUSION:** IFNβ-1b treatment of patients with CIS apparently offers reasonable value for money relative to many well-accepted health care interventions.