theoretical cohort of patients diagnosed with RRMS in the United States (US). Health states were based on the Kurtzke expanded disability status scale (EDSS) (higher EDSS scores = increased disease severity). Relapse and disease progression transition probabilities for SMA were obtained from natural history studies. Treatment effects of the immunomodulatory therapies were estimated by applying a percent reduction to the SMA transition probabilities and adjusting for neutralizing antibodies (NAbs) and treatment discontinuation. Therapy-specific data was obtained from clinical trials and long-term follow-up studies. Transitions among health states occurred in 1-month cycles for the lifetime of a patient. Costs (2005US$) and outcomes were discounted at 3% annually. RESULTS: The incremental cost per quality-adjusted life-year (QALY) is $258,465, $303,008, $395,686, and $310,691 for SCGA, IM-IFNβ-1a, SC-IFNβ-1-a and SC-IFNβ-1-b compared to SMA respectively. Sensitivity analyses showed results were sensitive to changes in utilities, disease progression rates, time horizon and immunomodulatory therapy cost. CONCLUSIONS: Model results indicated that the immunomodulatory therapies are both more effective and more costly than SMA in treating RRMS. Although the reported incremental cost-effectiveness ratios (ICERs) are well above $50,000/QALY, not all economic evaluations are bounded by this threshold and numerous interventions with ICERs above this threshold have been deemed valuable by patients, health care decision-makers and society. This model suggests that of the immunomodulatory therapies for MS SCGA is the most cost-effective.

**PNL9**

**COST-EFFECTIVENESS OF TOPIRAMATE FOR MIGRAINE PREVENTION: A MANAGED CARE PERSPECTIVE**

Brown J1, Rupnow M2, Neumann PJ1, Friedman M1, Menzin J1
1Boston Health Economics, Inc, Waltham, MA, USA, 2Ortho-McNeil Janssen Scientific Affairs, LLC, Titusville, NJ, USA

OBJECTIVES: To estimate the cost-effectiveness of topiramate (TPM) treatment for migraine prevention versus no preventive treatment using newly available efficacy and cost data. METHODS: Model inputs included baseline migraine days per month (base-case: 7), treatment discontinuation, treatment response, cost of preventive therapy, cost of acute treatment per attack (medical and pharmacy services), hours of work lost per attack, and hourly wage. Model outcomes were expressed monthly and included the number of migraine days averted, disability hours, total cost of preventive and acute treatment, and lost wages. Model inputs were gathered from published literature, clinical studies of TPM in migraine prevention (double-blind and open-label extensions), and census data. Unit costs for resource use were obtained by analyzing actual payments of year 2004 medical claims from a large managed care database. RESULTS: TPM treatment was associated with a mean reduction in migraine days of 2.4/month, and 6.5 fewer disability hours. Acute treatment costs per patient per month (including pharmacy and medical) were $39 lower ($100 versus $139) and work loss was $65 lower ($125 versus $190) for TPM preventive arm. The incremental monthly cost per patient of TPM preventive therapy was $109. Consequently, the total cost in TPM arm was $5 higher than in no-preventive arm ($109-$39=$65); incremental total cost per migraine day averted was $2 for TPM versus no preventive therapy. Results are sensitive to the baseline migraine rate: as the rate increases, total cost of care decreases, with break-even at 7.4 migraine days/month. CONCLUSIONS: Economic savings (direct and indirect costs) are associated with lower migraine frequency offset approximately 93% of the cost of preventive therapy, suggesting that TPM is a cost-effective treatment for migraine prevention.