has been estimated from clinical trials data. The cost of general practitioner visits, special visits, hospitalizations and emergency department visits were included. Costs and utility values attached to various health states were taken from the published literature. RESULTS: Lacosamide adjunctive therapy was associated with 6.78 avoided seizures and a gain of 38 quality adjusted life-years (QALYs) compared to the standard therapy arm within the two-year timeframe. Treatment with lacosamide was associated with a cost of $223 per seizure avoided, and $39,574 per QALY gained versus standard therapy over two years and falls within acceptable thresholds of cost-effectiveness in the United States. Results calculated for 6-, 12- and 18-month follow-up showed respective incremental cost-utility ratios of $55,465, $46,587 and $44,559 and cost per seizure avoided of $731, $305 and $260. Using a willingness-to-pay threshold of $50,000 per QALY, 77% of the simula-tions below this threshold fell within the cost-effectiveness threshold. The change in mean odds of relapse decreases and cost-savings, exclusive of drugs, generally increase. Examining MS-related total charges, exclusive of drugs, revealed that a MPR ratio of relapse of 0.545 (95% CI 0.351 – 0.824), 0.530 (95% CI 0.371 – 0.870), and 0.421 (95% CI 0.260 – 0.679) resulted in a decrease in mean MPR charges. Multivariate regressions which controlled for patient characteristics examined the association between achievement of alternative MPR goals and patient relapses and charges. Logistic regressions were used to examine the relapses, while general linear models were used to examine charges. RESULTS: Patients who achieved an MPR of at least 0.7 had significantly lower odds of relapse, with achievement of a threshold of 0.7, 0.8 or 0.9, respectively, associated with an odds ratio of relapse of 0.545 (95% CI 0.351 – 0.824), 0.530 (95% CI 0.371 – 0.870), and 0.421 (95% CI 0.260 – 0.679). Larger reductions in total direct medical charges, excluding drugs, were seen with higher MPR thresholds. For example, achievement of a threshold of at least 0.5 was associated with $1524 lower total charges (P = 0.0004), while a MPR threshold of 0.90 was associated with $1825 lower charges (P = 0.0005). Examining M.S.-related total charges, exclusive of drugs, revealed that a MPR threshold of 0.90 was associated with $986 lower total M.S.-related charges (P = 0.0498). Results also found an association between patient adherence to GA and statistically significant reduction in inpatient, ER, outpatient, M.S.-related inpatient and M.S.-related outpatient charges. CONCLUSIONS: As adherence improves the odds of relapse decreases and cost-savings, exclusive of drugs, generally increase. Results suggest that, despite the higher costs associated with increased usage of GA, patient outcomes are improved and there are cost-offsets associated with “compliant” use of the medication.