Abstracts

NAb screening, and no therapy) were included in the model. Data from pivotal clinical trials, US product labeling, and other published sources were used to estimate disease progression, relapse rates, treatment efficacy (reductions in relative risk of progression/relapse; effect of NAb on efficacy), adverse events, therapy discontinuation/switching, costs, and patient utilities. For each treatment scenario, incremental cost per QALY was assessed relative to no therapy, and each screening scenario was compared to its corresponding “no screening” scenario.

RESULTS: Incremental cost per QALY (lifetime treatment; 3% discounting) ranged from $75,300 (Avonex) to $135,900 (Betaseron). NAb screening resulted in 10-year cost savings of US$5100 per patient (Rebif) and US$3000 (Betaseron), versus US$800 additional cost for Avonex. CONCLUSIONS: Based on higher occurrence of NAb with Betaseron and Rebif, universal NAb screening of patients treated with these agents improves clinical effectiveness and is cost saving. However, NAb screening for Avonex-treated patients is cost additive due to Avonex’s lower immunogenicity.

HEALTH CARE COSTS FOR FLORIDA MEDICAID RECIPIENTS WITH MULTIPLE SCLEROSIS

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OBJECTIVE: To assess health care costs among patients with multiple sclerosis (MS) in the Florida Medicaid program.

METHODS: We employed a retrospective matched cohort design using administrative claims data for Florida Medicaid recipients. Patients were included if they had a diagnosis of MS between July 1, 2001 and June 30, 2002, and were eligible for Medicaid as of July 1, 2001. Those covered in capitated plans or dually eligible for Medicare and Medicaid were excluded. The comparison cohort consisted of MS-free patients matched on age, gender, and race to the MS group. The excess cost of MS (in 2002 US dollars) was estimated as the difference in mean Medicaid payments between the MS group and matched controls. Patients were followed for 12 months unless eligibility terminated earlier.

RESULTS: A total of 951 patients with MS met cohort selection criteria, a prevalence rate of approximately 8 per 10,000 Medicaid eligible. About one-third of these patients were dispensed glatiramer acetate or beta-interferon. MS patients and matched controls (n = 951) averaged 43 years of age; 78% were female, and 61% were white. Both cohorts had similar mean Charlson comorbidity scores and low mortality rates (<3%). Compared to their matched controls, MS patients were more likely to be hospitalized (33% vs. 20%, respectively), use nursing home services (15% vs. 3%), or use home health care services (37% vs. 11%). The annual per-patient excess cost of MS was estimated to be $11,383 ($20,264 vs. $8,881 for matched controls). Long-term care accounted for 44% of the excess costs, followed by medications (28%), and hospitalizations (14%).

CONCLUSIONS: Although MS is relatively rare in this Medicaid population, the per-patient costs are high. Long-term care costs are the largest portion of Medicaid payments, highlighting the disease burden.

A COMPARATIVE COST ANALYSIS OF VASCULAR DEMENTIA VERSUS ALZHEIMER’S DISEASE IN TAIWAN

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OBJECTIVE: To compare the average direct costs for patients diagnosed with vascular dementia (VaD) versus Alzheimer’s disease (AD) from the perspective of the Taiwan National Health Insurance (NHI) program.

METHODS: Using health care claims data for NHI recipients in the Bureau of National Health Insurance Kao-Ping Branch, Taiwan, we evaluated NHI expenditures among adults 50 + years of age diagnosed with VaD (ICD-9-CM 290.4X) or AD (ICD-9-CM 331.0) between July 1, 2000 and December 31, 2002. Patient’s identification period spanned from Jan 1, 2001 through Dec 31, 2002 with a 6-month baseline periods and 1-year follow up period. Direct costs estimated using NHI physician fee schedules. Health care utilization and NHI expenditures (in 2002 NHI reimbursement prices) were calculated overall and by component of care. Multivariate techniques, based on regression analyses of the log of total costs, were employed to adjust for differences between the study cohorts in sociodemographics.

RESULTS: In total, 1450 patients met study inclusion criteria; Of the 710 were diagnosed with VaD, 41.6% were women; Of the 740 with AD, 50.7% were women. The average age for VaD was 76.25 years and 76.79 years for AD. Relative to AD patients, the burden of comorbidity was higher among VaD patients, especially for cerebrovascular disease (43.2% vs. 15.9%), but also for diabetes (5.6% vs. 3.1%) and chronic pulmonary disease (5.5% vs. 1.4%). Mean monthly costs per patient were approximately NT$1013 higher for patients with VaD versus AD (NT$5467 vs. 4454; p < 0.001). Most of this excess cost were attributed to higher inpatient utilization (84.8%) and mental health services (11.2%). Adjusting for difference in age, gender, and comorbid conditions between the two cohorts, mean monthly cost per patient were about NT$1107 higher in the VaD cohort (NT$3892 vs. 2785; p < 0.001).

CONCLUSIONS: Relative to AD patients, VaD have sig-
significantly higher health care costs. Efforts to better control comorbid diseases such as cerebrovascular risk factors may decrease the future burden of VaD.

Healthcare Utilization and Expenditures Among Medicaid Patients with Parkinson's Disease
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OBJECTIVE: Parkinson's disease (PD), a progressive neurological disorder, affects approximately 1% of the population over 65 in the United States. Average annual Medicaid costs per patient for all patients were $3759 in 1998. The overall economic burden of PD was estimated at $25 billion annually in 1997. This study quantifies direct medical care costs for individual Medicaid beneficiaries with PD.

METHODOLOGY: Patients with at least 12 months of continuous enrollment in Medstat's MarketScan® Multi-state Medicaid claims database were identified. Patients were required to have either two claims with a diagnosis of PD (ICD-9-CM 332.0) or one diagnosis and two or more prescriptions for a PD-related medication (levodopa/ carbidopa, dopamine agonist, MAO-B inhibitor, or COMT inhibitor). Health care utilization and expenditures accrued from the first observed diagnosis or prescription. Because patients were allowed to have varying lengths of follow-up (minimum: 12 months), expenditure and utilization data were annualized.

RESULTS: A total of 11,882 patients with PD were identified and followed for an average of 821 days. The mean age of the sample was 73.9 years and 57.6% were women. Mean total annual health care expenditures were $18,586 (SD $25,592) per patient. Nineteen percent had at least one hospital admission while long term care was utilized by 15.8% of patients. Average annual inpatient hospitalization costs were $8921 (SD $15,359), while long term nursing home care expenditures accounted for $31,434 (SD $27,659). In addition to PD-specific care, 16.9% while long term nursing home care accounted for annual inpatient hospitalization costs were $8921 (SD $15,359), while long term nursing home care expenditures accounted for $31,434 (SD $27,659). In addition to PD-specific care, 16.9% were diagnosed with a fall or injury and 8.2% with dementia, while 44.4% were treated with antidepressants and 31.1% were treated with antipsychotic medications. CONCLUSION: Mean total health care expenditures for Medicaid patients with PD were nearly five times the average Medicaid costs previously reported for elderly beneficiaries. Further investigation of the burden of PD will entail comparisons to a matched cohort of Medicaid patients without PD.

Financial Analysis of Calcium Channel Blockers for Acute Traumatic Brain Injury
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OBJECTIVE: To determine the costs, effects, and cost-effectiveness of the treatment of Traumatic Brain Injury (TBI) with calcium channel blockers versus standard care. METHODS: A Monte Carlo model of acute TBI was constructed from the payer's perspective and used to compare the costs and effects of treatment with calcium channel blockers to standard care. The intervention modeled was the calcium channel blocker Nimodipine intravenously, 1 mg/hr the for first 2 hours and 2 mg/hr thereafter for up to 7 days to control intracranial pressure (ICP). Standard care is no drug intervention to control ICP. The outcomes of the model were good recovery, severe disability or persistent vegetative state (PVS), and death. Outcome probabilities were derived from the literature. Average treatment costs of TBI were derived from the literature. Modeling and sensitivity analysis were performed using Data 4.0. The incremental cost, incremental effectiveness, and incremental cost-effectiveness were tested using SPSS 11. RESULTS: The incremental cost of treating TBI with a calcium channel blocker was $15,469 above standard care (p < 0.001). The incremental effectiveness of treating TBI was 0.02 Quality Adjusted Life Years (QALY) more than standard care (p < 0.001). The incremental cost-effectiveness of treating TBI was $24,030 per QALY (p < 0.001). CONCLUSIONS: The incremental cost of treating TBI with a calcium channel blocker of $15,469 is significant, but it is not unreasonable. Considering the severity of the TBI and the importance that even a small reduction in mortality and disability would have, the incremental cost of treating TBI with a calcium channel blocker should not be considered an obstacle to treatment.

Neurological/Genetic Disorders (Migraine, Alzheimer's, Parkinson's, MS, Epilepsy, Brain Injury, Hunter Syndrome, Insomnia)

FACORS THAT DETERMINE EMPLOYABILITY IN EPILEPSY PATIENTS: A PILOT STUDY
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OBJECTIVE: Epilepsy affects up to 1% of the population. With advances in treatment, up to 90% of epileptics have reasonably controlled seizures. This has not translated into parity in the workplace and up to 25% of epileptics remain unemployed. In this study, we determined those variables that distinguish epileptics who work from those who do not. METHODS: Seventy patients aged 18-65 years with confirmed epilepsy who did not undergo epilepsy surgery or vagal nerve stimulator implantation were randomly selected from our epilepsy database. A 36-item multiple-choice questionnaire that focused on demographic, disease-related and employment-related information was sent. Patients were categorized as being full-time employed, part-time employed or unemployed. Using a Fischer exact test at a 90% level of confidence, we identified those variables that distinguished epileptics who were fully employed from those who were not. RESULTS: Nineteen questionnaires were returned. Patient's ages ranged from 21 to 59 years and 63% were females. Twenty-six percent were married and 68% were Caucasians. Thirty-three percent were employed full-time and 61% were unemployed. Variables that distinguished epileptics who were employed (either fulltime or part-time) were perceived higher intelligence (p = 0.0429), the absence of disability benefits (p = 0.0152), shorter history of seizures (p = 0.0338), and perceived importance of work for both personal (p = 0.0498) and financial (p = 0.0498) reasons. Variables that distinguished epileptics who were fully employed were perceived higher intelligence (p = 0.0245), the absence of disability benefits (p = 0.0498) and perceived importance of work for personal reasons (p = 0.0537). CONCLUSION: Employment among epileptics correlates with perceived intelligence, the absence of disability benefits, the duration of epilepsy and perceived importance of work. Most disease-related variables do not significantly influence employability. Integrating work-directed programs into the routine care of epileptics may decrease the level of unemployment in this population.