regression analyses were conducted to compare the time to first antipsychotic drug dispensing between the rivastigmine and donepezil groups. **RESULTS:** A total of 532 patients receiving rivastigmine and 7,264 patients receiving donepezil were studied. The donepezil group was slightly older (81.1 vs. 79.9 years; p = 0.0044) with a greater proportion of women (59.4% vs. 53.2%; p = 0.0053). The Kaplan-Meier analysis showed that 30 (5.6%) rivastigmine and 589 (8.1%) donepezil patients received antipsychotic medications (Log-rank p = 0.0672). Multivariate adjustment showed that rivastigmine was associated with a statistically significant reduction in emergent use of antipsychotic drugs by 34% relative to donepezil (hazard ratio: 0.66; 95% CI: 0.46–0.96; p = 0.0305). Among other statistically significant covariates, older age, lower drug dose, baseline depression and neuropsychiatric symptoms, and admission to inpatient long-term care facilities were associated with an increased likelihood of antipsychotic drug use. **CONCLUSIONS:** Based on real-world data from a large cohort of antipsychotic-naïve patients with AD, rivastigmine was found to be associated with a significant reduction in the emergent use of antipsychotic drugs, compared to donepezil. Prospective studies are needed to verify these findings.

PND38

EMPIRICAL CLASSIFICATION OF EPILEPSY TYPES IN INSURANCE CLAIMS DATA

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OBJECTIVES: We have initiated a project to identify statistically independent dimensions of health services utilization in epilepsy. A desirable covariate for this analysis is the type of convulsive disorder. Here we report on the classification of epilepsy patients using insurance data. **METHODS:** We applied an iterative classification technique to patients' sequences of insurance claims for outpatient and inpatient services, diagnostic procedures and drugs. The target population included 122,850 US commercial insurance and Medicare supplement subscribers with a physician visit diagnosis of ICD-9 345xx. We classified persons into the ICD-9 coding scheme (or as "not epilepsy") by developing a family of rules corresponding to empirically observed claims patterns. We sampled patient histories in blocks of 50. Within each claims history, a neuroepidemiologist looked for diagnosis, procedure and treatment patterns that pointed to a clinical diagnosis, and added that pattern to the rule defining a diagnostic type. Removing classified patients, we sampled remaining claims histories and repeated the process of classification and removal and sampling until 50 claims histories suggested no new classification rules. Remaining patients were tagged as unclassifiable. Finally, we reviewed samples of the classified patients to identify disqualification criteria. **RESULTS:** The majority of patients are classifiable and the empirical classification rules "make sense" clinically (e.g. diagnostic changes are permitted immediately if they follow a diagnostic procedure). A significant minority of cases of epilepsy have only nonspecific treatment codes assigned. **CONCLUSIONS:** There are clear examples of patients with different clinical subtypes of epilepsy in claims data, and it will be possible to derive average utilization characteristics and drivers for different types of epilepsy. Analysis of the dimensions of health care utilization (combinations of drugs, procedures, physician and hospital) may yield further insight into currently unclassifiable cases and will provide sensitive measures of the cost impact of new therapies.

PND39

ECONOMIC IMPACT OF GENERIC ENTRY OF TOPIRAMATE IN THE G4 EUROPEAN COUNTRIES

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OBJECTIVES: Generic substitution might produce economic impacts beyond the reduction in spending for new generic product, such as increased number of users, and utilization of health care resources. The current study forecasts the economic impact of generic entry of the antiepileptic drug (AED) topiramate into the settings of France, Germany, Italy, and the UK. **METHODS:** Health claims from Québec's provincial health plan (RAMQ) from January 2006 to September 2008, and IMS Health data on European AED sales between 1998 and 2008 were used. Patient-level health care utilization and costs in Canada were calculated during mutually-exclusive periods of brand versus generic use of topiramate (Topamax®). Annualized Canadian health care costs were projected for periods of branded and generic use in each country (€2007/person-year). Using market-level sales, branded and generic topiramate utilization were forecasted for 12 months following expected generic entry (September 2009-September 2010) using autoregressive and panel-data regression models. The economic impact of generic entry was projected for each country, stratified into its effect on market size, topiramate costs, and other health care costs. Budgetary consequences for individual, private, and government payers were assessed. **RESULTS:** Projected per-patient health care costs in G4 European countries, excluding topiramate, would be significantly higher during generic-use periods (adjusted cost differences per person-year: €706 to €815, p < 0.001 for all comparisons) compared to brand-use periods. Assuming mandatory generic substitution for all patients, predicted system-wide increases in total adjusted health care costs would range from 3.5% (UK) to 24.4% (France) 1 year after generic entry. Increases in non-topiramate health care costs (+13.7% to +18.1%) would more than offset savings in topiramate costs (–6.3% to –13.8%) in France, Italy, and the UK. These impacts would be evenly distributed among payers of each country. **CONCLUSIONS:** Generic entry of topiramate in Europe would represent a trade-off between reduced generic drug expenditures and increased health care costs.

PND40

EXPLORING THE IMPACT OF DISPENSING CHANNEL ON MEDICATION ADHERENCE AMONG MULTIPLE SCLEROSIS PATIENTS

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OBJECTIVES: To determine if dispending channel (specialty pharmacy versus retail) impacts medication adherence for patients receiving therapy for Multiple Sclerosis (MS). **METHODS:** Retrospective pharmacy claims for MS patients were extracted for 2007–2008. Patients were followed for 12 months from the index claim. Adherence was measured using a Medication possession ratio (MPR), with patients considered adherent if MPR ≥ 80%. Propensity scoring was used in the sample selection. Differences of demographics were evaluated using the Wilcoxon signed-rank test for continuous variable and the chi-square test for the categorical variable. Generalize linear regression was used to calculate the adjusted mean adherence. **RESULTS:** From a study population of 31,593 MS patients, a matched sample of 19,742 was chosen (9,871 in the specialty and retail channel). There were no differences in demographics between the samples, with 76.19% female and mean age of 48.84. Overall comparison showed an average MPR of 89.94% for specialty and 84.08% for retail; with 81.52% of specialty patients adherent (MPR > 80%) vs. 71.18% of retail patients. The results were similar for each individual MS therapy. The following list the drug, and the percent of specialty and retail patients at least 80% adherent: Interferon beta-1a (Avonex) 87.49% vs. 78.13%, interferon beta-1a (Rebif) 80.97% vs. 75.50%, interferon beta-1b 79.16% vs. 66.48%, glatiramer acetate 78.26% vs. 63.81%. (Average MPRs for each drug available on the poster.) All comparisons were statistically significant (P < .05). **CONCLUSIONS:** Patients who receive their MS medication from a specialty pharmacy are much more likely to be adherent than those who receive medication from a retail pharmacy. This is true across the broad category, as well as each individual therapy. Specialty pharmacy offers enhanced patient counseling and clinical services, which may explain differences in adherence. Follow up studies will explore the impact of improved adherence on clinical and economic outcomes.

PND41

DETECTION OF PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY REPORTS ASSOCIATED WITH NATALIZUMAB PRE- AND POST-RISK MINIMIZATION ACTION PLAN FROM ADVERSE EVENT REPORTING SYSTEM DATABASE

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OBJECTIVES: To review postmarketing surveillance data in order to examine reports of progressive multifocal leukoencephalopathy (PML) in patients using natalizumab for multiple sclerosis (MS) before and after the implementation of a natalizumab Risk Minimization Action Plan (RiskMAP) in the United States (US). **METHODS:** The Adverse Event Reporting System (AERS) database was searched for reports of serious adverse events of PML associated with natalizumab in MS patients during the pre- (November 23, 2004-February 28, 2005) and post-RiskMAP (July 2006-June 2008) periods. AERS reports listing, 1) Tysabri or natalizumab as primary suspect drug; 2) events of PML; and 3) natalizumab-PML combination reports were extracted. Duplicate reports and drug redundancies were excluded; in the event of duplicate case reports, the report with the most recent date was used. Reports from foreign countries were excluded to focus the analysis on US-related events and to exclude variations due to different governmental requirements and national post-marketing surveillance systems. **RESULTS:** A total of 576,072 unduplicated reports were identified during the post-RiskMAP period in the US. A hands-on review of the reports of PML and tysabri/natalizumab identified 41 and 1221 unduplicated US reports respectively, during the post-RiskMAP period. There were two confirmed cases (from previous literature) of PML associated with natalizumab before RiskMAP implementation and eight reported cases following RiskMAP implementation. The mean age of reported natalizumab-PML cases post-RiskMAP was 50.6 years, and 7 of the cases (87.5%) were in females. **CONCLUSIONS:** The extracted reports from the AERS indicate continuing case reports for PML associated with natalizumab for MS during the post-RiskMAP period. Although AERS is incapable of detecting the true frequency of an adverse event associated with a drug or assessing the actual causal relationship, these reports of natalizumab-associated PML indicate that continued surveillance and further epidemiologic study is necessary.

PND42

BRAZILIAN NATIONAL GUIDELINE FOR MULTIPLE SCLEROSIS (MS): AN EXPLORATORY STUDY ABOUT THE IMPACT OF THE PATIENT'S ADHERENCE IN THE TREATMENT COSTS

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OBJECTIVES: To evaluate the impact of the patient's adherence to national guideline in the treatment costs. **METHODS:** A one-year (January 2007 to December 2007) retrospective database search was conducted to identify medication used, costs, patient adherence and provision. The source of data was the Ministry of Health public available database, called DATASUS. The study were conduct in four steps: 1) Determine the medicines codes in the public list; 2) Establish the relationships among drugs and