OBJECTIVES: Older antiepileptic drugs (AEDs) are known to have a narrow therapeutic index. As a consequence, switching between bioequivalent AEDs remains controversial in the management of epilepsy. We investigated the association between A-rated switching of each class of currently available AED medication and emergent treatment for a seizure-related event. **METHODS:** We used a case-control method and claims data from the 2010-2011 Truven Health MarketScan® Commercial Claims Database to estimate the risk of seizure following a medication switch. Cases and controls with an epilepsy diagnosis were identified by emergency/inpatient or outpatient visit claims, respectively. Cases and controls (n=8,106) were matched 1:1 by age, seizure diagnosis category and seizure medication. The exposure was defined as a switch between A-rated AEDs during the 90 days prior to index date. Conditional logistic regression was used to estimate the association, adjusting for gender, baseline Deyo-Charlson Comorbidity Index (0, 1, 2, or 3+), region (Northeast, Central, South, and West), and total AED medications. **RESULTS:** A switch between A-rated AEDs occurred in 1053 (23.2%) cases and 818 (18.0%) matched controls. The unadjusted and adjusted odds ratios of a seizure-related event for switching were 1.39 (95% CI: 1.25-1.54) and 1.22 (95% CI: 1.10-1.37), respectively. The independent risk of an event also increased with each category increase in the Charlson score (CCI=1: 1.60, 95% CI: 1.42-1.81; CCI=2: 1.72, 95% CI: 1.44-2.06; CCI=3+: 3.42, 95% CI: 2.84-4.11). Older AED medications had infrequent switches compared to newer agents and were not associated with events. **CONCLUSIONS:** We found a modest association between AED switching and seizure-related events. Our analysis suggests that the behavior of switching alone may lead to seizure-related events regardless of the medication. Other disease or environmental characteristics may contribute to this association. Until more conclusive evidence is available, health care professionals and patients should undertake switching of bioequivalent AEDs on an individual basis.

PND17

STUDY OF PSEUDOBULBAR AFFECT SYMPTOMS IN VETERANS WITH MILD TRAUMATIC BRAIN INJURY

Fonda JR[1], McGlinchey RE[1], Milberg WP[1], Rudolph JL[1], Hunt PR[2], Reynolds MW[2], Yonan C[3]
[1]*VA Boston Healthcare System, Boston, MA, USA,* [2]*United BioSource Corporation, Inc., Lexington, MA, USA,* [3]*Avanir Pharmaceuticals, Inc., Grass Valley, CA, USA*

OBJECTIVES: Pseudobulbar affect (PBA) is a neurological syndrome characterized by disinhibition of emotional expression and can occur following traumatic brain injury (TBI). Service members returning from Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) have unprecedented risk for mild TBI (mTBI), primarily from exposure to blast-related munitions. The prevalence of PBA in OEF/OIF veterans with mTBI is unknown. This study will determine the prevalence of PBA symptoms in OEF/OIF veterans with mTBI and characterize the populations with mTBI and PBA symptoms. **METHODS***: Participants*: Veterans receiving health care from the VA in the New England region (VISN-1) who tested positive on the VA standard TBI screen, excluding those with a current diagnosis of bipolar disorder, schizophrenia or other psychotic disorder. *Procedure*: TBI-positive veterans will be mailed the Center for Neurologic Study-Lability Scale (CNS-LS) questionnaire, a tool to assess PBA symptoms, supplemented with a validation question "Have you ever experienced involuntary episodes of crying and/or laughing that were exaggerated or even contrary to how you felt at the time?" VA clinical data will be used to characterize the entire study population and subset that return the CNS-LS questionnaire. *Outcome*: Participants will screen positive for PBA symptoms with a CNS-LS score ≥ 13 and answering yes to the validation question. We will determine the prevalence and 95% confidence interval of positive screens in the study population. **RESULTS:** There were 4,951 OEF/OIF veterans in Massachusetts who completed the VA TBI screen between April 2007 and February 2012, of whom 1,051 (21%) tested positive. We are currently identifying our study sample and will have preliminary results at the time of the conference. **CONCLUSIONS:** Ultimately, we propose a more comprehensive examination of the nation's veterans with mTBI to determine the overall prevalence of PBA. Identifying individuals who may be at risk for PBA will have important social and health care implications.

NEUROLOGICAL DISORDERS – Cost Studies

PND18

A DESCRIPTIVE ANALYSIS OF DRUG ACQUISITION COSTS TO TREAT MULTIPLE SCLEROSIS (MS) IN BRAZIL: THE MINISTRY OF HEALTH (MOH) PERSPECTIVE

Alexandre RF, Mosca M, Schneiders RE, Zimmermann IR, do Nascimento Jr JM, Gadelha CA
Ministry of Health, Brasília, DF, Brazil

OBJECTIVES: The treatment of MS, relapsing-remitting or secondary-progressive forms, is available in the Brazilian public health system (SUS), according to guidelines of MoH. Here, we describe the profile of the MoH' financial resources applied on the acquisition of drugs to treat MS in 2011 and 2012. **METHODS:** Descriptive analysis of the expenses with drugs to treat MS where the MoH is responsible for their acquisition: beta-Interferon, glatiramer and natalizumab. The expenses were calculated based on the amount dispensed and acquisition prices in 2011 and 2012 (current values; exchange rate: US$ 1 = R$ 2.04), obtained from MoH databases. **RESULTS:** In 2011, the expenses of MoH with the acquisition of medicines for MS reached to US$ 144,323,965.92, representing 7.2% of its annual resources applied on the acquisition of high-cost medications. Of this amount, US$ 112,182,371.80 was destined to the beta-interferon (77.8%), US$ 30,383,351.47 to the glatiramer (21.2%) and US$ 1,758,242.65 to the natalizumab (1.0%). In 2012, these same expenses increased to US$ 184,985,919.97 (a 28.2% difference). Of this amount, 78.4% was destined to the beta-interferon, 17.9% to the glatiramer and 3.7% to the natalizumab (3.7%). During this period, there was a mean price reduction of 13.2% (8.0 to 18.4%) and a mean increase of 38.6% (18.4 to 110%) in the amount of medicines dispensed. **CONCLUSIONS:** The drugs used in MS have relevant impacts on the MoH' budget. Thus, strategies to optimize resources, as the centralized acquisition of these medicines, which occurs since 2010, provide systematic price reduction and allow larger availability of medicines.

PND19

ANNUAL HEALTH CARE COSTS AND UTILIZATION IN ADULTS TAKING LONG OR SHORT ACTING ANTIEPILEPTIC MONOTHERAPY

Cramer J[1], Wang Z[2], Chang E[3], Copher R[2], Cherepanov D[3], Broder M[3]
[1]*Yale University School of Medicine, Houston, TX, USA,* [2]*Eisai, Inc., Woodcliff Lake, NJ, USA,* [3]*Partnership for Health Analytic Research, LLC, Beverly Hills, CA, USA*

OBJECTIVES: Adherence to antiepileptic drugs (AEDs) is imperfect and AEDs of long half-life or duration of action (e.g., extended release) might mitigate the impact of missed doses. We compared costs and utilization between patients treated with long-acting (LA) and short-acting (SA) AED monotherapy. **METHODS:** A retrospective cohort analysis was conducted using claims data (OptumInsight). We included adult epilepsy patients (≥1 epilepsy diagnosis in 2010 and 2011) who used AED monotherapy and were continuously enrolled in 2011. Patients were excluded if they had <2 AED fills, <9 months of treatment, or a treatment gap >60 days. Based on published data and expert opinion, AEDs were classified as LA or SA. Pharmacy and medical claims in 2011 were used to determine costs and utilization. Claims associated with an epilepsy diagnosis, test, or AEDs were considered epilepsy-related. Baseline group differences were adjusted using multivariate analyses. **RESULTS:** The 4058 (49.6%) LA users and 4122 (50.4%) SA users were mean age: 47.7 versus 45.1 years, female: 47.6% versus 57.0%; and had epilepsy-specific comorbidities: 19% versus 25%, respectively; all P<0.001. Compared with SA users, LA users had lower mean overall costs ($9,757 vs. $12,689) and epilepsy-related costs ($3,539 vs. 5,279) and lower rate of overall (8.7% vs. 10.8%) and epilepsy-related hospitalization (5.7% vs. 7.5%) (all P<0.01). After adjusting for demographics, usual care physician, and comorbidities, mean overall costs were lower by $686 (P=0.137) and mean epilepsy-related costs by $894 (P=0.005) in LA users than in SA users. **CONCLUSIONS:** Patients with epilepsy treated with LA AED monotherapy incur a lower economic burden than those treated with SA AED monotherapy. This study indicates that using AEDs with more extended coverage between doses may decrease health care use and lower costs. Future studies should examine the impact of duration of action on outcomes in combination therapy and in adolescents.

PND20

ASSESSING DRUG COSTS FOR USE IN COMPARATIVE EFFECTIVENESS RESEARCH

Levy JF[1], Meek PD[2], Rosenberg MA[1], Vanness D[1], Farrell PM[1]
[1]*University of Wisconsin, Madison, WI, USA,* [2]*Albany College of Pharmacy and Health Sciences, Albany, NY, USA*

OBJECTIVES: Current procedures to assess costs of drugs for use in comparative effectiveness studies fail to account for important issues related to pharmacy practice such as availability of generic drugs, differing manufacturer and package sizes, and clinically equivalent and reasonably interchangeable dosages. This work proposes a method aimed at better estimation of drug costs that includes a level of uncertainty. **METHODS:** Using patient drug histories and the Micromedex Redbook costs database, we construct an algorithm which accurately matches every prescription drug order to the full set of therapeutically appropriate National Drug Codes (NDCs) that could be used to fill each prescription. The algorithm, calculated on a per unit of ingredient, is flexible and can be modified to include more or less inclusive sets of possible NDC codes based on various definitions of reasonably interchangeable drug formulations. We compare a (i) simple method, using only a single NDC code, (ii) complete method that matches every potentially suitable NDC code, and (iii) pill rationing to favor exact doses. The complete and pill rationing methods introduce uncertainty between what was prescribed and what NDC code could be used to fill each prescription. **RESULTS:** As a concrete example using 500mg dose of Cephalexin, our simple method yields an estimated cost of $2.74 per dose, our complete method with 556 NDCs yielded mean (sd) $3.61 (2.40), and pill rationing with 314 NDCs yielded mean (sd) $3.55 (1.73). **CONCLUSIONS:** This method highlights several important issues when assessing costs of a drug included in comparative effectiveness studies. It also proposes a way to better account for uncertainty when modeling estimated costs and more consistency in including individuals using the same drug dosage at the same cost.

PND21

ECONOMIC BURDEN OF ADVERSE TREATMENT EFFECTS IN PARKINSON'S DISEASE: EVIDENCE FROM A LARGE EMPLOYER POPULATION

Davis KL[1], Fitzgerald TP[2], Meyers J[1], Kulkarni A[2], Svarvar P[2], Hewitt DJ[2]
[1]*RTI Health Solutions, Research Triangle Park, NC, USA,* [2]*Merck & Co., Inc., Whitehouse Station, NJ, USA*

OBJECTIVES: To assess increased all-cause costs incurred by patients experiencing various adverse effects (AEs) associated with Parkinson's disease (PD) and its treatments in a large, real-world population. **METHODS:** A retrospective analysis was conducted using the MarketScan database, an employer-based source of inpatient, outpatient, and pharmacy claims of >30 million lives from 2000–2011. Inclusion criteria were: ≥1 PD diagnosis (ICD-9-CM 332.0) and ≥1 anti-PD treatment claim (levodopa, dopamine agonist, anticholinergic, MAOB-inhibitor, COMT-inhibitor, or amantadine) during 2000-2011. Separate case/control cohort analyses were conducted for each AE (dyskinesia, orthostatic hypotension, secondary hypertension, nausea, edema,