linergic medications. The highest prevalence was seen for Level 1 medications (52.37%) followed by Level 2 (3.02%) and Level 3 (2.31%) medications. The prevalence of concurrent use of anticholinergic medications of various levels was 8.42% (7.53–9.32). Multinomial regression analysis revealed that predisposing (age) and need (behavioral symptoms, activities of daily living, out of bed mobility and depression) factors were positively associated with Level 1 drug use. Need factors (behavioral symptoms and total number of medications taken) were found to be negatively associated with Level 2 drug use whereas need factors like parkinsonism and depression were positively associated with receiving Level 3 medications and concurrent use, respectively. CONCLUSIONS: Nearly three of four elderly nursing home residents with dementia received anticholinergic medications of different levels. The findings suggest that there is a need to optimize anticholinergic medications in dementia patients, especially the higher level agents due to their significant adverse profile in dementia patients.

THE IMPACT OF OUTPATIENT MENTAL HEALTH SERVICES ON RE-ARRESTS AMONG GROUPS OF INDIVIDUALS WITH A SERIOUS MENTAL ILLNESS IN TWO URBAN COUNTIES, ONE IN FLORIDA AND ONE IN TEXAS

Constantine RJ1, Robst R1, Howe A1

University of South Florida, Tampa, FL, USA, 1Ortho McNeil Jansen, Roswell, GA, USA

OBJECTIVES: Individuals with a serious mental illness (SMI) often experience recidivistic patterns in the criminal justice system (CJS). It has been argued that the provision of mental health services can disrupt this pattern. We examined the impact of community based mental health services on the arrest patterns of adults with a SMI who became involved in the CJS in Pinellas County Florida and Harris County Texas.

METHODS: We identified adults 18–64 years old in Florida and Texas with a SMI who spent at least one day in jail during an index year. Statewide and local administrative data sets were used to document their patterns of arrests and utilization of health and mental health services over 3–4 year periods. Generalized estimating equations were used for count data to estimate the association of outpatient and ER/patient mental health contacts in a quarter and arrests in the subsequent quarter. Individual fixed effects models were also estimated to account for unobserved time invariant factors correlated with treatment and the likelihood of arrest. RESULTS: We identified 3769 and 8505 individuals in the Florida and Texas data sets respectively. In Florida, individuals receiving outpatient services in a quarter were 20% less likely to be arrested in the subsequent quarter. The effect was greater for misdemeanor than for felony arrests. Individuals receiving ER/patient services were 7% more likely to be arrested in the subsequent quarter, and 13% more likely to have a felony arrest. The association between outpatient mental health services and arrests was confirmed by the individual fixed effects model. Parallel analyses are underway using Texas data to determine if the relationships hold for different jurisdictions and time frames. CONCLUSIONS: Outpatient mental health services were associated with a decrease in the risk of arrests among groups of individuals with a SMI and criminal justice involvements.

DEMOGRAPHIC AND CLINICAL PREDICTORS OF HIGH-DOSE PRESCRIPTION OF DULOXETINE IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Liu X1, Cui Z1, Watson PM1, Niu L1, Mitchell B1, Faries D1, Gopal M1

1Eli Lilly and Company, Indianapolis, IN, USA, 2Lilly USA, LLC, Indianapolis, IN, USA

OBJECTIVES: Optimal treatment of major depressive disorder (MDD) includes the selection of an adequate antidepressant medication and its delivery at a fully therapeutic dose for adequate treatment duration. Many factors may influence a physician’s decision making with respect to antidepressant choice and appropriate dose level. This study examined the pretreatment predictors of high-dose prescription of duloxetine for MDD patients in the real world clinical setting. METHODS: In a large commercial managed-care claims database, 6,132 MDD patients, who were initiated on duloxetine between July 1, 2005 and June 30, 2006, had no prior prescription of duloxetine for 6 months, and had continuous enrollment for both 12 months prior to and post initiation, were included. The associations between demographics and pre-initiation clinical variables and the maximum prescribed duloxetine dose (high: > 60 mg/day; mid: 60 mg/day) were examined by chi-square tests and logistic regression. RESULTS: Of the sample, 16.3% had a maximum prescribed duloxetine dose of less than 60 mg/day; 59.3%, 60 mg/day; and 24.4%, >60 mg/day. Compared with mid-dose patients, high-dose patients were older; had more comorbidities of neuropathic pain, osteoarthritis, fibromyalgia, drug dependence, and bipolar disorders; were more likely to be treated by primary care physicians, used more benzodiazepines, venlafaxine, atypical antipsychotics, psychostimulants, and anticonvulsants; and had higher pharmacy and medical costs in the prior 1 year (All p values <0.05). After adjustment for health plan type and geographic region of residence, the following factors were independently associated with high-dose prescription: older age (β=0.464, 95% CI 0.35–0.57); neuropathic pain (OR = 1.56), prior use of psychostimulants (OR = 1.32), benzo diazepines (OR = 1.22), venlafaxine (OR = 1.24), atypical antipsychotics (OR = 1.35), and physician specialty (psychiatrist vs. non-psychiatrist, OR = 1.54). CONCLUSIONS: Demographic and clinical characteristics and prior costs are associated with a high-dose duloxetine prescription. High-dose treated patients may represent a group of complicated patients with high medical costs who need intensive treatment.

ASSOCIATION OF ANTIDEPRESSANT THERAPY AND BIPOLAR DISORDER (BD)-RELATED RE-HOSPITALIZATIONS AMONG PATIENTS WITH MANIC OR MIXED BD EPISODES

Scott M1, Friedman M2, Korn JR2, Hassan M1, Kim J1, Maraini J1

1Boston Health Economics, Inc, WalTham, MA, USA, AstraZeneca Pharmaceuticals LP, Wilmington, DE, USA, 2AstraZeneca Pharmaceuticals LP, Wilmington, DE, USA

OBJECTIVES: Bipolar disorder (BD) treatment guidelines state that antidepressants (ADs) may precipitate, or exacerbate BD mixed or mixed episodes and generally recommend tapering or discontinuing ADs for patients with recent acute manic or mixed episodes. This study assessed the association between continued AD use and BD-related re-hospitalizations among BD patients. METHODS: Using the PharMetrics Patient-Centric Database, baseline (January 1, 2004–June 30, 2006) episode and the subsequent quarter (July 1, 2006–December 31, 2006) with an acute psychiatric event ("index event"), defined by hospitalizations, emergency room visits, or physician visits with a prescription for a new BD medication with a primary diagnosis of BD I mania or BD I mixed. All patients were required to be eligible for the 12 months before and after index event and have a BD-related hospitalized care (any diagnosis of any BD subtype) in the pre-index period. Patients with schizophrenia at any time during the study period were excluded. Continued AD use was defined using prescription drug claims as 30+ days of available AD therapy within 120 days after the index event. Logistic regression—controlling for age, sex, geographic region, baseline comorbidities—was used to determine the association between continued AD use and post-index BD-related re-hospitalizations (any diagnosis of any BD subtype). RESULTS: A total of 2,126 patients met study criteria (mean age, 44; 57% female). 453 BD patients (20.4%) were re-hospitalized within 1 year. Partial responders continued AD use (31.5%) were significantly more likely to be re-hospitalized (OR, 1.387; 95% CI, 1.102, 1.748) than those without use. Other predictors of increased risk of re-hospitalization included being female and baseline diagnoses of comorbid substance abuse and eating disorders. CONCLUSIONS: Continued AD use in mania or mixed BD may be associated with increased risk of BD-related re-hospitalization.

ASSESSMENT OF HOSPITALIZATION RISK AMONG PATIENTS WITH BIPOLAR I DISORDER TREATED WITH ANTIPSYCHOTIC THERAPY IN A COMMERCIALLY INSURED POPULATION

Liang K1, Abouabdell S2, Muizer E1, Kim K2, Druzin R1, Maraini J1

1Boston Health Economics, Inc, WalTham, MA, USA, 2Ortho-McNeil Jansen Scientific Affairs, LLC, Titusville, NJ, USA, Ortho-McNeil Jansen Scientific Affairs, LLC, O’Fallon, MO, USA, Ortho-McNeil Jansen Scientific Affairs, LLC, Bethesda, MD, USA

OBJECTIVES: To evaluate risk and benefits of antipsychotic use in commercially insured patients with bipolar I disorder. METHODS: Retrospective cohort analysis using the PharMetrics Patient-centric Database, including patients with ≥1 inpatient or ≥2 outpatient medical claims indicating bipolar I disorder and ≥1 prescription for an antipsychotic medication between 7/1/2003, and 3/31/2007. Patients were followed 1 year from date of first (index) antipsychotic prescription. Continuous health benefit eligibility from 1 year before (baseline) through 1 year after (follow-up) index was required. Patients had to receive ≥1 additional antipsychotic claim during follow-up to ensure a treated population. Adherence was measured using median time in ratio (number of outpatient-treated days divided by total number of outpatient days during follow-up). Multivariate logistic regression models were used to identify factors associated with all-cause (AC) and psychiatric-related (PR) hospitalization. RESULTS: A total of 12,100 patients were eligible. Mean (SD) patient age was 37.2 (15.7) years, 59.9% were female; 22.8% had baseline diagnoses of substance abuse, and 49.8% had other psychiatric conditions. During follow-up, 27.9% of patients had AC and 25.3% had PR hospitalizations. On average, patients had 0.5 (±1.1) AC and 0.4 (±1.0) PR hospitalizations. Baseline substance abuse or diagnosis of other psychiatric use of antidepressants, anxiolytics, or anticholinergics; psychiatric hospitalization; and nonadherence to antipsychotic therapy during follow-up were associated with significantly greater risk (P ≤ 0.05) of AC and PR hospitalizations; age <35 years was also associated with significantly greater risk of PR hospitalization. Baseline anticonvulsant use was associated with significantly lower risk of PR hospitalization. CONCLUSIONS: Several patient characteristics appeared to be associated with greater risk of hospitalization among commercially insured bipolar I patients receiving antipsychotics. These findings may be useful to health plan administrators interested in targeting interventions, though further research on the impact of such interventions is needed. Supported by funding from Ortho-McNeil Jansen Scientific Affairs, LLC.

A COMPARISON OF TRANSITIONS BETWEEN HEALTH STATES AND INSTITUTIONALIZATION AMONG ALZHEIMER'S DISEASE PATIENTS VERSUS NON-ALZHEIMER'S DISEASE DEMENTIA PATIENTS USING THE NACC-UDS DATABASE

Bark SD1, Stackman DE1, Sullivan SD1

1Univ of Washington, Pharmaceutical Outcomes Research and Policy Program, Seattle, WA, USA, 2University of Washington, Seattle, WA, USA

OBJECTIVES: Compare transitions between mild, moderate and severe health states, and to death or institutionalization for Alzheimer disease (AD) and non-AD dementia patients. METHODS: The National Alzheimer Coordinating Center's Uniform Data Set (NACC-UDS) is a large, longitudinal dataset funded by the National Institute of Aging that includes AD and non-AD dementia patients, and non-dementia controlled.
Using the mini-mental state examination (MMSE) we classified patients as mild (27–20), moderate (19–10) or severe (<10). We calculated the association between previous and current MMSE stage and the association between previous MMSE stage and institutionalization using multinomial logistic models with random effects to account for individual and center level correlation, controlling for demographic characteristcs and time since last observation. The coefficients from the regressions were used to calculate predicted probabilities using the population means for each of the covariates. RESULTS: Our analysis was limited to 3,418 patients with dementia (52.3% probable AD) and two or more observations with complete data for our covariates of interest. Average baseline age was 76.72 years old. Average MMSE was 17.05. The majority were female, 50.4%. The regression coefficient for the previous MMSE stage was significant in all cases and suggests that being in a higher MMSE stage at the previous visit is associated with being in a higher MMSE stage or dead. Previous MMSE stage was found to be strongly associated with institutionalization. White, non-Hispanic, unmarried patients were more likely to be institutionalized, all else equal. Patients with non-AD dementia were more likely to be institutionalized than patients with AD. CONCLUSIONS: Patients with AD in the NACCODS US database transition more quickly to more severe stages of MMSE than non-AD dementia patients. Non-AD dementia patients are more likely to transition to institutionalization and die than patients with AD.

Mental Health – Cost Studies

PMH27 ESCITALOPRAM (GENERIC DRUG) IN MAJOR DEPRESSIVE DISORDER (MDD) – BUDGET IMPACT ANALYSIS

Wojciech L, Moges G, Garbacz M, Chrusz G, Pianiazek I

Atriana Institute, Cracow, Poland

OBJECTIVES: The purpose of this analysis was to estimate the impact of escitalopram (generic drug) reimbursement on the budget of the National Health Fund (NHF) in Poland. METHODS: The budget impact analysis was prepared for 3 years time horizon (2009–2013) from the public payer's as well as patient’s perspective. Two scenarios were compared: present—without reimbursement of generic version of escitalopram and proposed—placing of escitalopram on the list of reimbursed drugs in Poland. It was assumed that escitalopram will take over a part of market of selective serotonin reuptake inhibitors (SSRIs) and selective serotonin-noradrenergic reuptake inhibitors (SNRs). The analysis was performed in two variants: basic analysis, assuming new reimbursement limit for escitalopram which equals the retail price of generic escitalopram and alternative variant presuming equal reimbursement limits for escitalopram and venlafaxine. Additionally, the minimum and maximum case scenarios and one-way sensitivity analyses were performed. RESULTS: Assuming the reimbursement of generic escitalopram in basic variant, the annual expenses from the budget of the NHF for major depressive disorder treatment would rise from 344,723 PLN to 577,153 PLN in fifth year in comparison to present scenario. In alternative variant, the estimated expenses would rise from 144,833 PLN in first year to 2,176,183 PLN in fifth year. From patient’s perspective the expenses for MDD treatment would decrease in basic variant from 245,874 PLN to 4,829,704 PLN and in alternative variant from 45,984 PLN to 1,775,734 PLN in first and fifth year, respectively, in comparison to present scenario. CONCLUSIONS: Budget impact analysis showed that the reimbursement of generic escitalopram would increase expenses from the NHF’s perspective and savings from patient’s perspective.

PMH29 NATIONAL ESTIMATES OF THE INPATIENT BURDEN OF PEDIATRIC BIPOLAR DISORDER

Berry E, Heaton PC, Kelton CM

University of Cincinnati, Cincinnati, OH, USA

OBJECTIVES: Bipolar disorder (BD) is a debilitating recurrent chronic mental illness, characterized by cycling states of depression, mania, hypomania, and mixed episodes. The objectives of this study were to calculate national estimates of the annual burden of inpatient hospitalizations of children and adolescents with bipolar disorder (BD); to describe and compare the burden across various patient characteristics, hospital characteristics, and key comorbidities associated with BD; and to determine the independent effects of these factors on hospitalization costs. METHODS: Discharge observations for children whose primary diagnosis was BD were collected from the Kids’ Inpatient Database (KID). The burden was estimated as total number of days in the hospital, total charges, and total costs. Mean costs and charges were calculated and were broken down by patient and hospital characteristics and by the top six comorbidities found for BD. Ordinary–least squares regression models explaining cost were estimated for both 2003 and 2006, and the models were compared by a way of a Chow test. RESULTS: There were 39,136 (40,679) bipolar disorder discharges in 2003 (2006), with total associated costs of $344,723 ($233) million in 2003 (2006). The mean cost was $4,490 ($5,725), while the mean length of stay was 8.12 (8.99) days in 2003 (2006). Factors associated with higher cost included youth (younger than 13), being black, being from a high-income family, having many diagnoses, being insured by Medicaid, living in the North East or West regions of the country, and having a long hospital stay. CONCLUSIONS: Declining trends in mean cost and length of stay, documented in previous studies for children with BD, persisted into 2003 but showed a slight reversal by 2006.

PMH10 COSTS ASSOCIATED WITH ANTIPSYCHOTIC MEDICATIONS AT CLINICALLY RECOMMENDED DOSES BASED ON MEDICAID CLAIMS DATA FROM EIGHT STATES


1The University of Texas, Austin, TX, USA, 2Purdue University, Indianapolis, IN, USA, 3Indiana University, Indianapolis, IN, USA. 4The University of South Carolina, Columbia, SC, USA, 5Pfizer Inc, New York, NY, USA, 6Pfizer Inc, New York, NY, USA.

OBJECTIVES: There is accumulating evidence of sub-therapeutic dosing of second-generation antipsychotics (SGAs), leading to suboptimal control of disease and higher overall treatment costs. Additional evidence is needed to better understand the clinical and economic outcomes of patients who receive clinically effective doses of SGAs. The objectives of this study were to distinguish patients receiving clinically recommended doses of SGAs and compare their medical care costs. METHODS: Patients with schizophrenia (N = 12,133) on an oral SGA (aripiprazole, olanzapine, quetiapine, risperidone or ziprasidone) were identified in Medicaid claims databases (2001–2008) from 8 states. Patients were followed for 18 months (6 month pre-index period during which patients did not receive an SGA, followed by a 12-month post-index utilization period to determine total costs). For patients on recommended dosing, costs were compared using a generalized linear model with a gamma distribution and link-log function, adjusting for baseline covariates (age, gender, race, pre-index costs, Charlson co-morbidity score, and specific psychiatric co-morbidities) with ziprasidone as the reference group. RESULTS: Of the 12,133 patients meeting study criteria 7,213 (59%) were taking clinically recommended doses by day 61 of their follow-up period. Patients on quetiapine had the lowest percentage at 37% (N = 1,037/2,869). Other results were aripiprazole 66% (N = 996/1515), olanzapine 65% (N = 1,831/2,828), risperidone 73% (N = 2,807/3,821), and ziprasidone, 47% (N = 522/1,100). When comparing groups of patients with recommended dosing, mental health-related costs (p = 0.006) and all-cause costs (p = 0.0005) were statistically higher for the quetiapine group compared to the ziprasidone group. CONCLUSIONS: Less than two-thirds of the Medicaid patients with schizophrenia who were started on an SGA were taking clinically recommended doses 2 months after their initial start. For patients using clinically recommended dosing, those taking quetiapine had higher mental-health-related costs and higher all-cause costs compared to patients taking ziprasidone.