

## PMH19

**ANTIPSYCHOTIC NON-ADHERENCE AND COSTS OF SHORT-TERM INPATIENT TREATMENT FOR SCHIZOPHRENIA**Olfson M<sup>1</sup>, Marcus SC<sup>2</sup><sup>1</sup>Columbia University, New York, NY, USA, <sup>2</sup>University of Pennsylvania School of Medicine, Philadelphia, PA, USA

Non-adherence with antipsychotic medications has been implicated as a proximal cause of hospital admission in the community treatment of schizophrenia. **OBJECTIVE:** To estimate the proportions of short-term inpatient admissions and hospital days for schizophrenia in the United States that are attributable to non-adherence with antipsychotic medications and to calculate the corresponding total health care costs of this care. **METHODS:** A series of multivariate regressions were performed with statewide 2001–2004 California Medicaid (Medi-Cal) data to estimate the fraction of hospital admissions and hospital days for schizophrenia attributable to non-adherence with antipsychotic medications. The 1997 Client/Patient Sample Survey was then used to estimate the national number and length of short-term inpatient admissions for schizophrenia. The 2002 Survey of Mental Health Organizations was used to produce national daily cost estimates of inpatient psychiatric care. The fraction of inpatient short-term admissions attributable to non-adherence was then applied to national estimates of the number and costs of inpatient treatment episodes. **RESULTS:** Each year in the United States, there are approximately 216,000 short-term inpatient admissions for the treatment of schizophrenia. These admissions include a total of approximately 2.0 million hospital days at a total cost of approximately 1.8 billion dollars. Eliminating non-adherence with antipsychotic medications would lower the number of short-term admissions by approximately 34,300 (15.6%), reduce by approximately 236,000 the number of inpatient treatment days (11.7%), and save approximately 213 million dollars (11.7%) in inpatient care costs. **CONCLUSIONS:** Non-adherence with antipsychotic medications accounts for a considerable proportion of inpatient treatment costs for schizophrenia. Improving adherence with antipsychotic medications would likely lead to savings by reducing the frequency and duration of inpatient treatment.

## PMH20

**COST OF TREATMENT OF HYPERKINETIC DISORDER IN GERMANY**Wehmeier PM<sup>1</sup>, Rothenberger A<sup>2</sup><sup>1</sup>Lilly Deutschland, Bad Homburg, Germany, <sup>2</sup>University of Göttingen, Göttingen, Germany

**OBJECTIVES:** To determine the cost of treatment (CoT) associated with Hyperkinetic Disorder (HD) in Germany by age and sex and compare it to the CoT of other childhood disorders. **METHODS:** Data on the CoT of various childhood disorders (including HD, epilepsy and asthma) were provided by the German Federal Statistical Office for the year 2002. The data had been gathered by the Federal Office from health insurance providers. The data were broken down by diagnosis, age, sex, and the type of resource consumed (inpatient treatment, outpatient treatment, medication). The CoT of HD was then compared to the CoT of epilepsy and asthma. **RESULTS:** Total treatment costs of HD were €142 million. The highest costs (€128.8 million) were in the age group 0–15 years, where HD is most prevalent, with 0.93% of insured girls and 3.35% of insured boys affected. Costs also reflect this gender difference in prevalence, with €104.6 million incurred by boys and €24.2 million incurred by girls in this age group. Treatment costs can be primarily attributed to inpatient treatment (41.6%), outpatient treatment (38.9%) and medication (5.7%). The treatment cost

of HD represents 2.2% of the total CoT in the age group 0–15 years, estimated to be €5,735 million. In this age group, other disorders such as epilepsy (or asthma) incur treatment costs of €199 million (€245 million). For epilepsy (or asthma), inpatient treatment accounts for 56.1% (18.6%), outpatient treatment for 11.1% (11.1%) and medication for 26.9% (59.0%) of CoT. **CONCLUSIONS:** In Germany in 2002, the CoT of HD was €128.8 million in the age group 0–15 years. The cost of HD was lower than the cost of other common childhood diseases and represents only 2.2% of the total CoT in the age group 0–15 years. Whilst inpatient treatment for HD incurs 41.6% of CoT, medication incurs 5.7%.

## PMH21

**HEALTH CARE RESOURCE UTILIZATION AND COST OF BIPOLAR I DISORDER WITH AND WITHOUT PSYCHOTIC SYMPTOMS**Poston S<sup>1</sup>, Kozma C<sup>2</sup>, Meletiche DM<sup>3</sup><sup>1</sup>Thomas Jefferson University, Philadelphia, PA, USA, <sup>2</sup>Independent Consultant, West Columbia, SC, USA, <sup>3</sup>Ortho-McNeil Janssen Scientific Affairs, LLC, Titusville, NJ, USA

**OBJECTIVE:** To compare the health care utilization and costs between patients with a diagnosis of bipolar I disorder with psychotic symptoms (BPP) to patients with bipolar I disorder without psychotic symptoms (BPO). **METHODS:** We conducted a retrospective, independent group analysis using pharmacy and medical claims from a large national managed care database. Patients in each cohort were identified based on their first claim for a bipolar diagnosis during the 2003 calendar year. T-tests and chi-square tests were used to compare variables between the two groups. **RESULTS:** Of the 8221 patients who met study criteria, 7.9% of the BPP group (n = 5108) had at least one mental health-related hospitalization, compared to 4.0% of the BPO group (n = 3113, p < 0.0001). Mean mental-health related hospital costs per patient in the BPP group were \$625 (SD \$3326) compared to \$283 (SD \$2223) in the BPO group (p < 0.0001). Overall mean medication costs were \$2638 (SD \$3765) in the BPP group compared to \$2397 (SD \$3482, p = 0.003), while mean costs for outpatient visits (other than physician visits) were not significantly different (p = 0.078). Overall mean health care costs were \$10,263 (SD \$19,962) in the BPP group compared to \$8,649 (SD \$15,132) in the BPO group (p < 0.0001). **CONCLUSIONS:** Patients with bipolar I disorder with psychotic symptoms had higher health care utilization and costs compared to patients without psychotic symptoms. Research on interventions targeting bipolar patients with psychotic symptoms may be warranted.

## PMH22

**ANTIPSYCHOTIC POLYPHARMACY COSTS: A FIVE-STATE MEDICAID STUDY**Valuck RJ<sup>1</sup>, Morrato EH<sup>1</sup>, Dodd SL<sup>2</sup>, Allen RR<sup>3</sup><sup>1</sup>University of Colorado, Denver, CO, USA, <sup>2</sup>Ethicon, Inc, Silesia, MT, USA, <sup>3</sup>Peak Statistical Services, Evergreen, CO, USA

**OBJECTIVES:** State Medicaid programs are scrutinizing atypical antipsychotic prescribing given relatively high costs and use with other psychotropic medications. This study assessed healthcare costs associated with antipsychotic polypharmacy in five state Medicaid programs over six years. **METHODS:** A retrospective cohort study using Medicaid claims data from California, Oregon, Tennessee, Utah, and Wyoming evaluated 64,411 patients who filled an antipsychotic prescription (1998–2003) and who were eligible 180 days prior to 365 days after the index claim. Analysis was stratified by antipsychotic regimen: polypharmacy (multiple antipsychotic initiation or

concomitant antipsychotic therapy, 60 day overlap); concomitant psychotropics (30 day overlap, no polypharmacy), polypharmacy + psychotropics; or monotherapy (no polypharmacy or psychotropics). ICD-9 codes (290.xx-319.xx) were used to identify mental health diagnoses and related hospitalizations. Total health care and drug costs were calculated for 365 days after the index antipsychotic claim. Groups were compared using chi-square and ANOVA tests. **RESULTS:** A total of 53.1% receiving antipsychotics began and stayed on monotherapy; 39.8% received concomitant psychotropics only; 3.2% polypharmacy only; and 3.9% polypharmacy + psychotropics. Polypharmacy rates varied by year ( $p < 0.001$ ), declining between 1998 and 2000, then increasing through 2002. Patients receiving polypharmacy were more likely to be male ( $p < 0.001$ ), have diagnosed schizophrenia ( $p < 0.001$ ) and a mental health-related hospitalization ( $p < 0.001$ ). Median total healthcare costs varied by therapy regimen (Mono, \$3156; Psycho, \$5131; Poly, \$6396; Poly + Psycho, \$9342;  $p < 0.001$ ). Median total drug costs varied by therapy regimen (Mono, \$1575, Psycho, \$3169; Poly, \$3838; Poly + Psycho, \$5833;  $p < 0.001$ ). The weighted contribution of total health care costs by regimen was: Mono, 49%; Psycho, 41%; Poly, 4%; Poly + Psycho, 6%. **CONCLUSION:** Polypharmacy rates were low during the study period, were higher in patients with more severe mental illness, and represented a small yet significant component of health care costs. Future research will investigate predictors of polypharmacy and health care costs.

## PMH23

**HEALTH CARE RESOURCE UTILIZATION PRE/POST RISPERIDONE LONG-ACTING INJECTABLE TREATMENT INITIATION IN A MANAGED CARE POPULATION**

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**OBJECTIVE:** To assess healthcare utilization and associated cost in schizophrenia and schizoaffective patients pre/post risperidone long-acting injectable (RLAI) treatment initiation. **METHODS:** A retrospective evaluation utilized pharmacy and medical claims to assess healthcare resource utilization and costs of adult schizophrenia patients from a mental health subset of managed care data. Inclusion criteria required a diagnosis of schizophrenia or schizoaffective disorder, at least one claim for RLAI between December 2003 and June 2004, and six months of continuous eligibility criteria pre and post the initial RLAI claim. The initial RLAI claim served as the index date. The observation period was 12 months, including 6-month pre and 6-month post RLAI treatment initiation where patients served as their own control. Healthcare utilization outcome variables included hospitalizations, emergency room use, outpatient visits, and medications. Costs represent the amount paid by the health plan for services. **RESULTS:** Results are available for the 26 patients meeting inclusion criteria. Mean patient age was  $37 \pm 13.4$  years, and 53.8% of the population were male. The mean number hospitalizations per patient decreased from 0.77 in the pre-period to 0.35 in the post-period ( $p = 0.06$ ). The costs for hospitalizations decreased from  $\$14,456 \pm \$28,745$  in the pre-period to  $\$4,201 \pm \$13,876$  ( $p < 0.05$ ). Outpatient utilization remained statistically unchanged between the pre and post period, while the costs for psychoactive medications significantly increased in the post period. Total healthcare costs trended downward, from an average of  $\$22,650 \pm \$30,856$  in the pre-period to  $\$15,182 \pm \$18,209$  in the post-period ( $p = 0.09$ ). Sensitivity analyses conducted around the index date resulted in a statistically significant

decrease in total health care costs in the post period. **CONCLUSIONS:** In this US managed care patient population, hospitalization costs significantly decreased post (RLAI) treatment initiation. Further studies with larger sample sizes are needed to confirm findings.

**MENTAL HEALTH—Health Care Use & Policy Studies**

## PMH24

**INCREASING FORMULARY ACCESS TO INNOVATIVE DRUGS: EFFECTS ON THE TREATMENT FOR SCHIZOPHRENIA IN A MEDICAL POPULATION**

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**OBJECTIVES:** Evaluate the effects of open access to atypical antipsychotics on patients with schizophrenia recently discharged from a hospital. **METHODS:** Retrospective database analysis of episodes of antipsychotic drug therapy using data from the California Medicaid (Medi-Cal) program. Episodes initiated between January 1994 and August 2000 were included in this analysis. Open access was implemented in October 1997. Selection criteria include a schizophrenia diagnosis; 6 months of data prior to and 12 months of data post episode start and institutionalization in an acute or psychiatric hospital within the prior 30 days. The final data set consisted of 3290 post-discharge episodes of treatment. Multivariate logistic regression models were estimated for the likelihood of using an atypical antipsychotics post-discharge and the likelihood of re-institutionalization in an acute or psychiatric hospital or nursing home. **RESULTS:** Open access increased the use of atypical antipsychotics by discharged patients by 8-fold (CI: 6.154–10.636). Moreover, use of atypical antipsychotics increased disproportionately for blacks (OR 0.514 vs. 0.914) and for other minorities (OR 0.933 vs. 1.194) relative to white patients. While access to atypical antipsychotics improved for black patients with open access, their use rates were still not equal to white patients. However, the estimated changes in access for other minority patients after implementation of open access did achieve statistical significance such that there was no statistically significant difference compared to whites in the open access period. But, more importantly, open access decreased the risk of re-institutionalization in an acute or psychiatric hospital (OR 0.67, CI: 0.557–0.816) and long term care (LTC) facilities (OR 0.67, CI: 0.493–0.916). **CONCLUSIONS:** Granting open access to innovative drugs reduced racial disparities in the use of atypical antipsychotics for minority patients upon hospital discharge. Open access reduced the risk of re-institutionalization in acute hospitals and long term care facilities.

## PMH25

**LEARNING FROM NICE TECHNOLOGY ASSESSMENTS: A CASE STUDY OF ITS RECENT APPRAISAL OF ADHD TREATMENT STRATEGIES**

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Health care policy makers need valid, objective, unbiased, and methodologically sound technology assessments. Frequently the approach established by the National Institute for Health and Clinical Excellence (NICE) is regarded as a reference standard internationally. **OBJECTIVE:** To use the recent appraisal of attention-deficit/hyperactivity disorder (ADHD) treatments as a case study to explore whether NICE technology appraisals meet quality expectations when addressing complex clinical problems. **METHOD:** Tracking the ADHD treatment appraisal by NICE