episode initiation. The date of first mania-related visit after depression was the index date of manic-switching for cases and a random date was assigned for controls. Based on the pharmacy records, 2050 patients were established having treatment of anti-depressant monotherapy, mood stabilizer monotherapy, or anti-depressant-mood stabilizer combination therapy within 30 days prior to the index date. A logistic regression with difference-in-difference approach was employed to predict the probabilities of having manic-switching by different types of treatment. RESULTS: Patients with antidepressant monotherapy and anti-depressant-mood stabilizer combination therapy were 31% (n = 87) and 29% (n = 82) in the case group and 43% (n = 768) and 27% (n = 481) in the control group. Using logistic regression to adjust for patient demographics, clinical-related and health-related variables, the odds ratios for having manic-switching in relation to antidepressant monotherapy and antidepressant-mood stabilizer combination therapy were 2.71 (95% CI: 1.32–5.56; p < 0.01) and 1.51 (95% CI: 0.81–2.81; p = 0.20) respectively, compared to mood stabilizer monotherapy. CONCLUSIONS: This study further validates the national practice guidelines for bipolar disorder with a case-control study design, which does not have the study limitations of typical intent-to-treat approach. Similar results were identified, indicating a risk of induced manic-switching by antidepressant monotherapy yet not by antidepressant-mood stabilizer combination therapy with second-generation antidepressants.

PMH15

STUDY GAPS IN ECONOMIC EVALUATIONS OF PHARMACOTHERAPY IN BIPOLAR DISORDER

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OBJECTIVES: Newer atypical antipsychotic medications were recently approved by the FDA for treatment of bipolar disorder. Although cost-effective pharmacotherapy can significantly lower total medical utilization and costs, economic evaluation studies of pharmacotherapy in bipolar disorder are limited, particularly for aytypical antipsychotics. This report reviews and identifies gaps in the current literature regarding impact of pharmacotherapy on health care utilization and costs among bipolar patients. METHODS: A literature search was conducted using Medline, CINHAL, International Pharmaceutical Abstracts and Cochrane Collaborative databases for studies published between January, 1990 and November, 2004. Abstracts presented at American Psychiatric Association, National Institute of Mental Health, and International Society of Pharmacoeconomics and Outcomes Research were also examined. Articles were reviewed to determine relevance to health care cost and utilization outcomes associated with bipolar disorder pharmacotherapy. RESULTS: The systematic search identified two randomized controlled trials, two studies using administrative claims databases, two studies using retrospective chart reviews and one study using decision-modeling. Two studies reported that atypical antipsychotic olanzapine reduced hospitalizations as compared to placebo and typical antipsychotics. There were no studies comparing outcomes between different atypical antipyschotics for bipolar disorder. Studies evaluating multiple endpoints between first-line pharmacotherapy and combinations of adjunct pharmacotherapy were also lacking. Divalproex exhibited better cost and utilization outcomes as compared to other pharmacotherapies (olanzapine, lithium and carbamazepine). Reduction in total direct costs of bipolar disorder with use of any pharmacotherapy was mostly attributable to reduced hospital stay. CONCLUSIONS: It is difficult to compare utilization and cost outcomes between pharmacotherapies due to the lack of head-to-head studies, differences in research design and population characteristics, and lack of cost-effectiveness studies determining relative value of each pharmacotherapy for bipolar disorder. Comprehensive evaluations of the impact of therapy on differentiated economic endpoints relevant to practice policies (drug costs, outpatient costs, hospitalizations, emergency room visits) are needed.

PMH16

MEASURING THE EFFECT OF A POLICY CHANGE IN MONTHLY PRESCRIPTION LIMIT ON HEALTH CARE UTILIZATION AND EXPENDITURE: A CONTROLLED COMPARISON OF OLS AND PANEL ESTIMATION

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OBJECTIVES: To evaluate the effect of the July, 2001 prescription limit policy change in the South Carolina Medicaid program on the utilization of health care services and their related costs for adult Medicaid recipients diagnosed with schizophrenia or bipolar disorder. METHODS: A retrospective cohort study design, identifying subjects with schizophrenia and bipolar disorder compared their utilization of health care services and associated costs 18-months before and after the policy change (July, 2001). Eligible patients were age 21 or older, had a qualifying diagnosis on a hospital or ambulatory claim, and a prescription medication for their diagnosis within 90 days (+/–) of their 1998 or 1999 enrollment date. Total health care cost and service utilization were estimated by ordinary least squares regression models and the results contrasted with panel regression methods due to the short time series. Predictor variables were demographics, inpatient hospitalization, and comorbidities. RESULTS: OLS and panel estimation show an increase in total cost and the number of ambulatory, hospital, prescription, and nursing home claims after the policy change. Panel estimation shows a positive monthly trend in the post period for all claims. CONCLUSIONS: The policy change resulting in an increase in average monthly patient prescription cost is associated with increases in total cost of care and overall health care utilizations.

PMH17

COMPARING PROPENSITY SCORE AND DIFFERENCE-IN-DIFFERENCE METHODS: SECOND-GENERATION ANTIDEPRESSANT USE FOR BIPOLAR DISORDER

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OBJECTIVES: When conducting analysis using observational data, there is often selection bias for which we must account for in order to adjust for pre-treatment differences between groups in baseline characteristics. This study compared the ordinary regression, propensity score weighting, propensity score matching, and difference-in-difference (DD) methods while addressing the impact of second-generation antidepressant use in adult patients with bipolar disorder. METHODS: A logit model was developed, as an ordinary approach, to predict the probability of having post-index mania-related visits from treatment types, controlling for individual demographics, clinical-related variables, health-related variables, and pre-index mania-related visits, serving as the baseline disease severity of bipolar disorder. The propensity score method added more bipolar severity variables to predict the propensity to be with one treatment type, without the problem of over-parameterization in the outcome model. Both weighting and greedy matching approaches were applied after the first-stage propensity score model achieved the covariates balancing. For DD model, a logistic regression was