PMH74

IMPACT OF ALTERNATIVE TREATMENTS ON POST TREATMENT COSTS FOR PATIENTS WITH BIPOLAR DISORDER

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OBJECTIVE: To compare post-treatment costs across alternative antipsychotics in the treatment of bipolar disorder (BD). **METHODS:** Data from a commercial health plan from July 1, 2003 to June 30, 2006 were used to identify non-institutionalized patients with bipolar disorder (ICD-9 296.4-296.8) but no history of schizophrenia (ICD-9 295.xx). Patients initiating treatment using a typical antipsychotic (TAP), atypical antipsychotic (AAP: aripiprazole, olanzapine, quetiapine, risperidone or ziprasidone), mood stabilizer or antidepressant were included. Episodes were divided into three categories: restarting treatment after a break in drug therapy >15 days with the drug used in the previous episode, switching therapy with or without a break in treatment, and augmentation therapy. First observed episodes were excluded from the analysis due to uncertainty concerning the patient's prior treatment history. A total of 106,447 episodes were included in the analyses using ordinary least squares (OLS) regression models of post-treatment cost adjusting for age, gender, geographic region, drug use history, prior medical care use, bipolar disorder diagnosis and co-morbid medical conditions. **RESULTS:** Average total post-treatment cost measured across all episode types ranged from $17,837 (olanzapine) to $22,292 (ziprasidone). OLS results found augmentation episodes to be significantly more costly than restart episodes (+$6836, $p < 0.0001$) or switching episodes (+$4109, $p < 0.0001$). AAPs were found to be more costly relative to TAP in patients restarting therapy and these estimates were significant for quetiapine (+$3126, $p < 0.01$) and ziprasidone (+$4811, $p < 0.05$). Patients initiating augmentation episodes with an AAP were also consistently more costly relative to TAP, again significantly so for quetiapine (+$2534, $p < 0.05$) and ziprasidone (+$2846, $p < 0.05$). However, most AAPs achieved significantly lower total costs relative to TAP for switching episodes ranging from –$1817 for ziprasidone ($p > 0.05$) to –$7632 ($p < 0.0001$) for olanzapine. **CONCLUSION:** In a commercially-insured population, AAPs are only associated with lower total post-treatment costs in patients with bipolar disorder who switch therapies.

PMH75

IMPACT OF ALTERNATIVE TREATMENTS ON POST-TREATMENT COSTS FOR PATIENTS WITH SCHIZOPHRENIA

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OBJECTIVE: To compare one-year post treatment costs across alternative antipsychotics in the treatment of schizophrenia. **METHODS:** Data from a commercial health plan from July 1, 2003 to June 30, 2006 were used to identify non-institutionalized patients with schizophrenia (ICD-9 codes 295.xx) who initiated treatment a typical antipsychotic (TAP), atypical antipsychotic (AAP: aripiprazole, olanzapine, quetiapine, risperidone or ziprasidone), mood stabilizer or antidepressant. Episodes were divided into three categories: restarting treatment after a break in drug therapy >15 days with the drug used in the previous episode, switching therapy with or without a break in treatment, and augmentation therapy. First observed episodes were excluded from the analysis due to uncertainty concerning the patient's prior treatment history. A total of 21,876 episodes were included in the analyses using ordinary least squares (OLS) regression models of post-treatment costs adjusting for age, gender, geographic region, drug use history, prior medical care use, schizophrenia diagnosis and co-morbid medical conditions. **RESULTS:** Average total cost measured across all episodes ranged from $22,804 for TAPs to $32,357 for mood stabilizers. Augmentation episodes were estimated to be significantly more costly than switching episodes (+$4222, $p < 0.0001$) or restart episodes (+$6970, $p < 0.0001$). There is considerable variability in total cost across medications. However, in this commercially insured population, there is no significant difference in post-treatment costs between patients receiving individual AAPs and TAP. Patients with schizophrenia treated with mood stabilizers were significantly more costly than TAP patients for restart episodes (+$4951, $p < 0.05$) and augmentation episodes (+$2990, $p < 0.05$). **CONCLUSION:** In a commercially-insured population, there are no significant differences in total post-treatment costs for AAPs patients relative to TAPs patients. Treating patients with schizophrenia with a mood stabilizer may lead to significantly higher cost.

PMH76

COST ESTIMATION OF PSYCHIATRIC CARE IN THE JAPANESE HOSPITAL USING SYSTEM DYNAMICS SIMULATION

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OBJECTIVE: Long hospital-stay of psychiatric patients is recognized as a problem in Japan compared with the western countries. In order to address this issue, the Japanese government initiated a reform plan in 2004 to make the beds largely downsized in the next decade, and raised the official fees of hospitalization to make a shift from out-patient to in-patient care. The aim of our study is to estimate how such a shift can affect and project the total costs of psychiatric care in a hospital when the hospital complies with the government new plan. **METHODS:** A system dynamics model for computing simulation was developed to estimate the total medical costs per hospital over a three-year period, employing the data from the published literature such as The 2006 Comprehensive Survey Report of the Japanese Association of Psychiatric Hospitals, etc. The model consists of four compartments for one out-patient care unit and three types of in-patient units such as short-term, mid-term and long-term care. The flows of patients and the relevant costs were analyzed and figured out alongside the compartments in the model. Hypothetical scenarios were simulated, assuming different rates of in- and out-patients flows. **RESULTS:** The simulated estimation resulted in the highest cost, $27,933,166, of one scenario with maximizing both a discharge rate of long-hospitalized patients and an acquisition rate of new out-patients. On the contrary, the lowest cost, $22,789,521, was identified in another scenario with no acceleration for discharge of long-hospitalized patients and no acquisition of new out-patients. **CONCLUSION:** A system dynamics simulation suggested that the government new policy for psychiatric care does not lead to cost-saving in a hospital perspective, but could be cost-increasing against the government intention to control the increasing cost. The evaluation of incremental cost-effectiveness ratio is the next step for further assessment.