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Poster Title: Real-world evidence on the use of three recently approved long acting injectable antipsychotics in the United States: statistical and cost analysis in patients with schizophrenia

Primary Author: Mallik Greene, Otsuka Pharmaceuticals, **Email:** mallik.greene@otsuka-us.com

Additional Author(s):
Neil Webb
Venediktos Kapetanakis
Ann Hartry

Purpose: Long acting injectable (LAI) antipsychotics are an important therapeutic option for patients with schizophrenia. Using real-world evidence **(**RWE), we aimed to compare demographic characteristics, treatment patterns and associated costs in patients with schizophrenia receiving three recently approved LAIs in the United States (US): aripiprazole (AP), aripiprazole lauroxil (APL) and paliperidone palmitate (PP) (3-month injection).

Methods: This retrospective analysis, based on DRG's RWE repository, included patients with schizophrenia with at least one pharmacy claim for the following LAIs between March 2013 and June 2016: AP (300mg/400mg once monthly), APL (441mg/663mg once monthly; 882mg once every 4-6 weeks) and PP (273mg/410mg/546mg/819mg once every 3 months). Patients' age and gender, time from diagnosis to receiving first treatment with one of the three LAIs and frequency of injection were assessed. Using insurance claims data, a cost analysis was conducted on patients for whom therapy costs were available. The mean total daily costs of each therapy (medical, pharmacy and hospital costs) before treatment initiation (BTI) and after treatment initiation (ATI) were compared between treatments over the study period. Cost analyses were performed in patients who during the study period had not received both treatments considered in the comparison; therefore, the total monthly costs of AP may vary between analyses.

Results: Data from 4,077 patients with schizophrenia were analyzed (AP=3,080; PP=714; APL=283). The mean age (years) of patients receiving AP (40.1 13.5**)** for the first time within the study period was significantly lower vs. patients receiving APL and PP. The median time between injections (days, IQR) was: 28.0 (21.6 40.0) for patients with AP 300mg/400mg [n=2,532]; 28.8 (25.0 77.1), 27.9 (21.1-44.1), and 28.4 (22.0-37.4) for APL 441mg, 662mg, and

882mg [n=124]; 46.0 (28.0 99.9) for PP 273mg, 410mg, 546mg, and 819mg [n=191]. With all LAIs significant reductions were seen in monthly medical costs/patient ATI (mean difference standard error [SE]) vs. costs BTI: AP, $198.8 42.7, $p < 0.001$; APL, $134.7 64.8, $p < 0.05$; PP, $126.9 33.7, $p < 0.001$. Due to increased daily pharmacy costs vs. costs BTI, the total monthly therapy costs/patient (mean difference SE) were statistically significantly higher after treatment with PP ($892.3 64.8, $p < 0.001$) and APL ($575.7 88.5, $p < 0.001$) but not with AP ($65.1 68.8, $p=0.344$). Patients treated with AP had significantly lower total monthly therapy costs vs. those treated with APL ($812.9 23.5 vs $1,333.0 92.7; $p < 0.001$) and PP ($833.2 24.0 vs $2,064.2 46.9, $p < 0.001$).

Conclusion: Patients receiving AP were significantly younger than those receiving APL and PP. The frequency of injection was in line with prescribed dosing for AP (both doses) and APL 441mg and 662mg. For APL 882mg, most patients received treatment at the shorter prescribed dosing interval (4 weeks). PP (all doses) was received by most patients at a shorter dosing interval than prescribed. Treatment with AP led to a statistically significantly lower cost impact vs. PP and APL.