Background

- Bipolar disorder (BD) is a chronic, relapsing mood disorder affecting 2.8% of the US adult population. 1

- Medication nonadherence is a significant driver of healthcare utilization, such as hospitalization and ED visits. 2
  - The direct healthcare costs of BD is more than $4 billion per year in the US, and the indirect costs are estimated to be over $48 billion. 3
  - Hospitalizations account for up to two-thirds of the overall costs. 4

- Literature has focused on comparing complete adherence (usually a threshold of 80%). 5, 6

Objective

The objective of the study was to examine association between different levels of medication adherence to atypical oral antipsychotics (APA) and psychiatric hospitalization costs in real-world non-BD patients. 7

Methods (continued)

- Retrospective cohort study using the IBM Health MarketScan® Medicare, Commercial, and Medicaid Supplemental Databases.

- Patient identification (Figure 1):
  - 21 repeat or 2 outpatient claims for existing or newly diagnosed BD (ICD-9-CM: 296.0x, 296.1x, 296.4x-296.6x, excluding 296.42; ICD-10-CM: F20.x-29, excluding F23.41) during the study period (1/1/2015-12/31/2016 Medicaid; 1/1/2015-9/30/2016 Commercial and Medicaid Supplemental)
  - pharmacy claim for any oral AP (asenapine, aripiprazole, brexpiprazole, cariprazine*, lurasidone, olanzapine, paliperidone*, quetiapine, aripiprazole, asenapine, ziprasidone; not all indicated for treatment of BD) during the study period (1/1/2015-12/31/2016 Medicaid; 1/1/2015-3/31/2016 for Commercial and Medicaid Supplemental)

- Index date: first date of starting antipsychotic oral AP therapy; atypical oral AP used on the index date

- To ensure treatment initiation, no index therapy 6 months prior to the index date (baseline period) was allowed; therapies in the baseline was allowed

- Continuous health plan enrollment during the baseline period and 6 months after the index date (follow-up period)

- Exclusion criteria:
  - <18 years old on index date
  - Use of 1 antipsychotic medication (e.g., typical AP and long-acting injectables) on the index date
  - Diagnosis of schizophrenia (ICD-9-CM: 295.xx, except 295.6 and 295.7; ICD-10-CM: F20.0x, excluding F20.91)

- Statistical analysis:
  - Logistic regression model used to estimate association between different levels of medication adherence and risk of hospitalization
  - General linear regression model used to estimate association between levels of medication adherence and hospitalization costs
  - Models adjusted for patient demographics (e.g., clinical characteristics, baseline medication use, and baseline hospitalization)

Results

- The final sample consisted of 18,288 patients: 5,962 (32.6%) fully adherent, 4,246 (23.1%) partially adherent, and 8,250 (44.9%) non-adherent patients (Table 1).
  - Non-adherent patients were younger than the partially and fully adherent groups (38.4 [SD 14.0] vs 42.6 [SD 14.0] and 43.2 [SD 15.0] years, respectively; p<0.001), and a greater proportion of them had psychiatric comorbidities compared with the partially and fully adherent patients (93.9% vs 89.4% and 86.2%, respectively; p<0.001) (Table 1)

- The unadjusted psychiatric hospitalization rates and costs were significantly lower in the fully adherent group compared to the partially (10.5%) and non- (11.7%) adherent groups (p<0.001)

- Adjusting for baseline differences, the adjusted rate of psychiatric hospitalization in the 6-month follow-up period remained lower in the fully adherent group than in the partially (3.4%) and non-adherent (4.6%) groups (p<0.001) (Figure 2)

- Among hospitalized psychiatric patients (n = 1,767), the mean adjusted psychiatric hospitalization cost was lower for the fully adherent cohort ($11,748), than the partially adherent ($15,051, p=0.003) and non-adherent patients ($15,710, not statistically significant)

Conclusions

- In a mixed population of Medicare, Medicaid, and Commercially insured patients with BD who initiated treatment with an AAP, better medication adherence was associated with lower psychiatric hospitalization rates and costs.

- These findings suggest that improving adherence in BD may be a valuable goal from both clinical and economic perspectives.

- Limitations of the study
  - Claims are meant to reimburse, not research, so misclassification is possible
  - Claims for a medication indicate that a prescription was filled and not that it was actually taken as prescribed. A future study with longer follow-up is warranted.

References

1. Mallik Greene, BPharm, PhD, DBA; Jessica Tingjian Yan, PhD; Eunice Chang, PhD; Ann Hartry, PhD; Irina Yermilov, MD, MPH, MS

2. Updated search: AMCP Managed Care & Specialty Pharmacy Annual Meeting April 23-25, 2016, Boston, MA. Research was conducted by Partnership for Health Analytic Research, LLC.