Medication Adherence and Discontinuation in Medicaid Patients with Schizophrenia Who Initiated a Long-Acting Injectable Antipsychotic Compared to Those Who Changed to a Different Oral Antipsychotic Monotherapy

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Introduction

- Medical is the predominant insurance program for the approximately 2.7 million adults with schizophrenia in the US.
- Medication non-adherence is associated with greater risks of relapse of symptoms and hospitalizations, but a large pragmatic trial found that 74% of patients on oral antipsychotics discontinued treatment within 18 months.
- Long-acting injectable antipsychotics (LAIs) may be able to improve medication adherence.
- Current studies of LAI initiation had small sample sizes or did not include all recently FDA approved LAIs.

Objective

To compare medication adherence and discontinuation in patients with schizophrenia who initiated an LAI to those who changed to a different oral antipsychotic monotherapy.

Methods

- Longitudinal cohort study using the Truven MarketScan® Medicaid Database
- Patient identification: Schizophrenia claim (existing or newly diagnosed) between 01/01/2012 and 06/30/2015
- LAI cohort: Initiated an LAI during the ID period (01/01/2013 to 06/30/2014) and index date: first LAI use
- Oral cohort: Schizophrenia patients who changed to a different oral antipsychotic monotherapy
- Index date: date of change
- Additional inclusion criteria: Schizophrenia diagnosis before index date, 1-year pre-index (baseline) continuous enrollment, 1-year post-index continuous enrollment
- Exclusion criteria: ≤17 years old index date
- Patients followed for variable period until disenrollment or study end
- Medication adherence reported as proportion of days covered (PDC) during 1-year follow-up
- PDC = number of days when index medication was available / 365 days
- Discontinuation defined as switch or gap of ≥60 days
- Statistical analysis: a General linear regression model used to estimate medication adherence
- Kaplan-Meier Curve and a Cox regression model used to estimate time to discontinuation and risk of discontinuation
- All models adjusted for patient demographic and clinical characteristics, baseline medication, and baseline emergency department (ED) visits or hospitalizations

Results

- 2,861 (50.7%) LAI initiators and 2,777 (49.3%) oral monotherapy users were identified (Figure 1).
- Compared with oral users, LAI initiators were younger [mean (SD)] LAI vs. oral: 39.9 (13.2) vs. 42.0 (13.1) (13.1). A higher percentage of LAI initiators were male (56.7% vs. 45.0%) and African American (57.7% vs. 41.3% (13.1). (Table 1).
- LAI initiators had lower psychiatric and somatic comorbid disease burden than oral users (76.7% vs. 86.3% and 56.6% vs. 65.1%, respectively; p<0.001 for both), and less ED or inpatient utilization (66.8% vs. 74.1%, p<0.001) during the baseline period (Table 1).
- Adjusting for covariates, LAI initiators had better medication adherence than oral users (adjusted PDC mean: 0.55 vs. 0.50, p<0.001) (Table 2).
- Median time to discontinuation index LAI was 196 days vs. 123 days for the oral cohort (p<0.001) (Figure 2).
- Oral cohort discontinuation treated at a higher rate than LAI cohort (hazard ratio: 1.20; p<0.001) (Table 3).

Table 1. Patient Characteristics

<table>
<thead>
<tr>
<th></th>
<th>LAI</th>
<th>Oral</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, mean (SD)</td>
<td>39.9 (13.2)</td>
<td>42.0 (13.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>2,081 (70.5)</td>
<td>2,160 (76.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>White, n (%)</td>
<td>991 (34.6)</td>
<td>1,038 (37.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Other, n (%)</td>
<td>330 (11.6)</td>
<td>472 (16.8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Type of initial therapy, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral monotherapy</td>
<td>2,777 (100.0)</td>
<td>2,777 (100.0)</td>
<td></td>
</tr>
<tr>
<td>LAI</td>
<td>2,861 (100.0)</td>
<td>2,861 (100.0)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Patient Identification

- 5,638 patients with at least one inpatient or two outpatient claims for schizophrenia from 01/01/2012 – 06/30/2015
- LAI initiators 2,861 (50.7%) LAI initiators and 2,777 (49.3%) oral monotherapy users were identified
- Compared with oral users, LAI initiators were younger [mean (SD)] LAI vs. oral: 39.9 (13.2) vs. 42.0 (13.1) (13.1). A higher percentage of LAI initiators were male (56.7% vs. 45.0%) and African American (57.7% vs. 41.3% (13.1). (Table 1).
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Table 2. Multivariate Results: Risk of Discontinuation and Adjusted Medication Adherence (PDC) Estimates

<table>
<thead>
<tr>
<th></th>
<th>N=2,861</th>
<th>N=2,777</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘‘Log-log ‘‘ slope</td>
<td>0.21</td>
<td>0.23</td>
</tr>
<tr>
<td>p-value</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hazard ratio</td>
<td>1.20</td>
<td>1.21</td>
</tr>
<tr>
<td>p-value</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 2. Time to Discontinuation of Index Treatment

- Kaplan-Meier Curve and a Cox regression model used to estimate time to discontinuation and risk of discontinuation
- All models adjusted for patient demographic and clinical characteristics, baseline medication, and baseline emergency department (ED) visits or hospitalizations
- Adjusting for covariates, LAI initiators had better medication adherence than oral users (adjusted PDC mean: 0.55 vs. 0.50, p<0.001) (Table 2).
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Table 3. Multivariate Results: Risk of Discontinuation and Adjusted Medication Adherence (PDC) Estimates

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<tr>
<th></th>
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<th>Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days to Discontinuation</td>
<td>0.60 (0.53 – 0.67)</td>
<td>0.56 (0.50 – 0.63)</td>
</tr>
<tr>
<td>p-value</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusions

- Medicaid patients with schizophrenia initiating LAIs had better medication adherence and lower discontinuation risk than patients who changed to a different oral antipsychotic monotherapy.
- Payers and treating clinicians patients with schizophrenia should consider LAIs as treatment options for patients with known or suspected poor adherence.

References


Limitations

- Clinical differences unmeasurable in this database may have been responsible for the choice of LAVs vs. oral antipsychotics, and these differences may be responsible for some of the adherence advantages observed.
- Results may not be generalizable to non-Medicare patient populations.

Acknowledgments

Disclosures: Greene is an employee of Otsuka Pharmaceutical Development and Commercialization, Inc., Princeton, NJ, USA; Lundbeck, Deerfield, IL, USA; Health Analytic Research, LLC, Beverly Hills, CA, USA; is an employee of Lundbeck, Deerfield, IL, USA; is supported by a grant from Lundbeck, Deerfield, IL, USA; is supported by a grant from Lundbeck, Deerfield, IL, USA; is supported by a grant from Lundbeck, Deerfield, IL, USA.

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