The effect of tailored interventions driven by predictive analytic modeling on improving medication adherence for Medicare Advantage prescription drug plan members

J Gandhi1, A Hall1, A Miguel1, A Ballew2, R Segal1, L Lidsky3, M Beschle3

1University of Florida College of Pharmacy, 2WellCare Health Plans, Inc., 3RxAnte, Inc

Background

- In line with the Institute for Healthcare Improvement’s Triple Aim for healthcare improvement which focuses on cost and improved quality of care, the Centers for Medicare and Medicaid Services (CMS) has adopted quality measures that focus on adherence to medications for chronic conditions.
- MAPD and PDP plans are currently rated on three measures of adherence: diabetes medications, RAS antagonists for hypertension, and statins for cholesterol.
- For MAPD plans, these three measures of medication adherence account for approximately 10% of a plan’s overall star rating establishing an incentive for adherence improvement.
- Medication adherence is measured by the proportion of days covered (PDC).

\[
PDC = \frac{\text{# of days covered by the Rx fills during assessment period}}{\text{# of days between first fill of the medication during the assessment period and the end of the assessment period}}
\]

Medication Adherence Services

- WellCare Health Plans, Inc. has contracted with RxAnte, Inc. and the UF MTMCCC for provision of medication adherence services.
- RxAnte has developed a suite of predictive, decision, and evaluation analytics designed to forecast, plan, and recommend adherence strategies at the patient level as early as the first filled prescription. Their platform allows for monitoring and evaluation of the effectiveness of adherence interventions.
- The UF MTMCCC has developed a comprehensive medication adherence service, which includes a validated assessment of patient-reported medication use, delivered by phone, to identify patient-specific barriers to medication adherence.
- Based off of this assessment the MTMCCC offers interventions tailored for individual patients and provides ongoing follow-up support to encourage both medication adherence and persistence.

Tailored Intervention Examples

- Disease State and Medication Education
- Side effect assessment and Pharmacist Intervention
- Cognitive Impairment Assessment
- Reminder tools
- Refill Synchronization
- Financial Assistance Programs
- 90 days supply
- Mail Order Delivery
- Automatic Refill

Acknowledgement

This project was supported by the Pharmaceutical Research and Manufacturers of America Foundation (PhRMA). The content is solely the responsibility of the authors and does not necessarily represent the official views of PhRMA.

METHODS

- A randomized control trial will be conducted to test the effectiveness of the telephonic medication adherence intervention program guided by innovative targeting methodology based on predictive analytics among MA-PD beneficiaries filling prescriptions for the three measured medication classes.
- Plan members will become eligible as participants for the study after a first prescription fill in 2014 within one of the therapeutic areas of interest. Patients will be assigned a risk score using RxAnte’s predictive analytic models.
- Patients will be pair-block randomized on a calculated risk score into an intervention and a control group.
- Power calculations will be performed to determine the minimum number needed for statistical significance.
- Outcome metrics calculated from prescription claims will include: percent of fills categorized as late-to-fill post intervention, 30-day fill rate post intervention, total pills obtained, PDC, and number of patients exceeding established adherence thresholds.
- Group comparisons will be made on an intent-to-treat and per-protocol basis.

<table>
<thead>
<tr>
<th>CMS Adherence Measures</th>
<th>Measure Name</th>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Adherence for Diabetes Medications</td>
<td>Intermediate Outcome</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Medication Adherence for Hypertension (RAS Antagonists)</td>
<td>Intermediate Outcome</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Medication Adherence for Cholesterol (Statins)</td>
<td>Intermediate Outcome</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Results

Figure 1. Plan member’s identified by RxAnte as non-adherent or at risk for non-adherence are contacted by the UF MTMCCC for adherence interventions. Solutions are tailored to plan members based on member specific medication adherence barriers identified through the use of a validated assessment tool.

Figure 2. The study will evaluate the program’s ability to improve the three measures for medication adherence by the change in score for each rating. The above intermediate outcomes measure are triple weighted when evaluating an MAPD plan’s overall star rating.

Conclusion

- Through collaboration between WellCare, RxAnte, and the UF MTMCCC, a randomized controlled trial will evaluate the effect of using predictive analytics and a telephonic medication adherence program on improving plan member adherence and CMS star ratings.