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

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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).

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

- The UF Medication Therapy Management and Communication and Care Center (MTMCCC) has developed a medication adherence intervention service aimed at improving the star ratings related to adherence for Medicare plans.

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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

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.

Objectives

- To determine the ability of the UF MTMCCC adherence program to improve medication adherence for WellCare MAPD plan members selected for outreach by RxAnte's predictive analytics. The metrics will include:
  1. An increase in PDC at specific points in time post intervention
  2. Percentage of members with PDC above 0.8 for plan year
  3. Percentage of members with a certain number of on-time fills post intervention
- To determine the effect of the program on a MA-PD plan's performance for each of the CMS adherence quality measures indicated by an increase or decrease in the score for each rating.

CMS Adherence Measures

Measure Name	Category	Weight
Medication Adherence for Diabetes Medications	Intermediate Outcome	3
Medication Adherence for Hypertension (RAS Antagonists)	Intermediate Outcome	3
Medication Adherence for Cholesterol (Statins)	Intermediate Outcome	3

★★★★★ "Excellent"
★★★★ "Above average"
★★★ "Average"
★★ "Below average"
★ "Poor"

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.

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.

Results

- Pending

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.