Background

- Medication adherence can reduce health care costs and improve health outcomes.1
- Quality improvement plans are determined by Centers for Medicare and Medicaid Services (CMS) Star Ratings. Adherence is a major component of Medicare Star Ratings and is measured across three drug categories (Renin Angiotensin System (RAS) hypertensive, high cholesterol and oral diabetes drugs).2
- To improve adherence in the Star drug categories, Prime Therapeutics offered the Stars Formulary program which began on Jan 1, 2016.
- The Stars Formulary benefit program (SFB) was comprised of a new benefit tier called Tier 6. The Tier 6 benefit was created to significantly reduce a member's cost share for Star adherence generic drugs. A member's cost share was reduced to a $1 to $3 range per 30-day drug supply for select generic drugs within the three Star drug categories.
- Previous research is limited in terms of cost share changes impacting adherence in health plans.3
- A 2016 study from Blue Cross and Blue Shield of North Carolina showed a 3.8% adherence improvement for metformin (diabetes) and a 2.9% improvement for ACE inhibitors (hypertension) when copayments were reduced to $0 for generic medications and reduced for brand name medications for over 700,000 individuals in commercial insurance.4
- A 2009 Blue Cross and Blue Shield of North Carolina study examined adherence improvement for $0 generic copayments in a much smaller population.5 The study did not show an adherence improvement.

Objective

- To determine if the Star Formulary benefit program that lowered generic drug cost shares for select drugs was associated with improved yearly Star adherence compared to controls.

Methods

- Administrative pharmacy claims and membership eligibility data were used from the Prime Therapeutics database.
- The intervention group for the study was comprised of Medicare Advantage (MA) members from plans where the SFB in 2016 was implemented. The comparison group was comprised of MA/MA members in plans where the benefit was not implemented.

Study population

- For 2016, the intervention group had 159,566 monthly average members compared to 59,466 members for the control group.
- The intervention group had 166,098 adherence proportion of days covered (PDC) measurements compared to 154,634 adherence PDC measurements for the control group across the combined three Star drug categories initially examined.
- The analysis inclusion criteria were members who:
  - remained in the same Medicare contract and did not change pharmacy benefit plans during the two-year study period (2015 and 2016);
  - had been continuously enrolled during the two-year study period (2015 and 2016);
  - qualified in both years for any of the three CMS Star adherence categories; and
  - had an adherence score in each of the three CMS Star adherence categories and
- had a year’s PDC calculated for the same Star drug category in both 2015 and 2016.
- A difference-in-difference study was conducted to assess the improvement in yearly percentage of members adherent who had the SFB in 2016 vs. 2015 (baseline) and compared this difference to a control group of members who did not implement SFB (Figure 1).6

In addition to the difference-in-difference analysis, an individual member level cost share analysis was conducted for a single insurer with multiple MABD contracts. In this insurer, some of the contracts received the Stars Formulary intervention, N = 45,202 and other contracts did not participate, N = 53,676.

Outcomes measurement

- Yearly percentage of members adherent was defined using CMS Star criteria.1
- Members were considered adherent if they had a PDC that was greater than or equal to 80% at calendar year-end.
- Members were required to have at least two claims for the drug class of interest during each year the measure was calculated.

Statistical analysis

- SAS v 9.4, SAS Institute Inc., Cary, NC was used for all analyses.
- We fit generalized estimating equation (GEE) models with logistic regression for the three adherence categories to estimate the adherence difference-in-difference adjusting for intervention, time period, age, gender and ZIP Code derived socioeconomic factors. Odds ratios (OR) and 95% confidence intervals (CI) were generated.
- A p value < 0.05 was considered statistically significant for all analyses.

Individual member cost share analysis

- The 2016 average member cost share per 30-day drug supply was compared across the three drug categories for members who had and had not received the SFB.
- An average benefit cost savings was calculated for members who had received the SFB compared to the members who did not receive the SFB.

Results

- Overall, 137,174 intervention (n = 80,609; comparison: 28,271) of the potential 218,741 (intervention: 63%).
- Yearly adherence had an unadjusted statistically significant 2.9% improvement (p < 0.01) for the three drug categories over time compared to controls (Table 2).
- The diabetes Star category had an unadjusted yearly adherence improvement of 4.4% points, however, the difference was not statistically significant, p = 0.08.
- A statistically significant adjusted 6% reduced odds of non-adherence was found, OR: 0.91 (95% CI: 0.86 – 0.96), for both cholesterol and hypertension categories over time compared to controls (Table 2).
- An 8% reduced odds of non-adherence for the diabetes category was found among the intervention group but was not statistically significant compared to controls (Table 2).
- The members in the Stars Formulary benefit program had reduced pharmacy cost shares for hypertension, cholesterol and diabetes that ranged from $2.50 to $3.98 per 30-day drug supply.

Conclusions

- Implementation of Star adherence programs occurring during these time periods could have impacted our results. However, based on our examination, the adherence programs were similar in the contracts studied.

- Thirty-seven percent of all 2016 Star PDC adherence measurements were excluded because of study design restrictions such as continuous enrollment in the same contract and having a PDC calculated in the Star drug category for both years.

- Based on restrictions, we cannot be certain how adherence differs for new initiators in 2016.
- Administrative pharmacy claims have the potential for miscoding and include assumptions of member actual drug use.
- Tier 6 drug lists were defined at the contract and plan level. Therefore, the list of generic adherence drugs covered as Tier 6 varied by contract and plan.

References