Impact of First Fill Intervention on High-risk Medication Usage in a One Million Member Medicare Population

Background

- High-risk medications (HRMs) have greater risk for adverse events among the elderly and serious complications are avoidable. This research is conducted in a center for Medicare and Medicaid Services (CMS) Quality of Care Measures, with 2015 marking the first year of 100 percent reporting.
- The CMS-defined HRMs consist of 52 medications associated with a high risk of serious adverse outcomes, the CMS HRM list is a CMS Star metric, Medicare insurers are leveraged to report these HRM Star scores.
- The CMS HRM definition was used to program participants from a Medicare first fill intervention that was registered in the CMS HRM measure for the calendar year.
- In 2015, members with their first HRM were identified and placed in a prescription letter program. A letter management committee was issued with a letter that did not implement the same program.

Objective

- To assess whether the HRM first fill intervention, a prescription letter with or without a member letter, was associated with a lower HRM percentage from 2014 to 2015 versus a concurrent control group that did not implement the same program.

Methods

- The study measured the CMS HRM Star percentage for contracts that participated in the HRM intervention compared to contracts that did not participate in the HRM intervention.

Study Design

- Pfizer Therapeutics (Pfizer) used administration pharmacy claims and membership eligibility data to create a study population to evaluate the CMS HRM Star percentage to the year 2015, matching each year.
- We included the analysis on the contract level instead of the member level because a member-level analysis would have required that each member was included in both years.
- The current plan was used as an intervention to determine which contracts participated in the CMS HRM Star measure.
- We conducted an analysis with the lowest percentage scored as a baseline.

Statistical Methods

- SAS v.9.4 (Institute, Cary, NC) was used for all analyses.
- A difference-in-difference statistical analysis was used for the comparison between the intervention and control groups.

Results

- The use of HRMs among the elderly is a Centers for Medicare & Medicaid Services (CMS) measure. The percentage female in the contracts ranged from 50.1% to 69.8% in 2015.
- 68.9% of contracts did not implement the outreach program.
- We fit a generalized estimating equation (GEE) regression model to estimate the HRM difference-in-

Conclusions

- We found there was a statistically significant additional percentage point difference in the intervention group compared to the control group from 2014 to 2015.
- For example, if a contract that implemented the intervention in 2015 had an HRM percentage of 1.04, the HRM intervention would have been associated with a lower HRM percentage compared to the no intervention group from 2014 to 2015.
- There was not a statistically significant difference in the HRM letter percentages between the prescriber plus member letter versus the prescriber only letter. Both the prescriber letter and the member letter had a statistically significant impact on the improvement of the HRM percentage.

Limitations

- Other HRM dissemination programs that occurred during these time periods may have impacted the results.
- In the difference-in-difference analysis, we did not adjust for age in percentage of low income subsidies within the contracts, however, we did adjust for plan type (Medicare Advantage versus FFS Medicare), which can account for differences in the populations.
- Although study limitations exist, most contracts had an overall HRM percentage of less than 10%, a prescription plus additional difference-in-difference is large and likely reaches a meaningful statistical change.

References

- Medicare Advantage Plan (MAPD) vs. Prescription Drug Plan (PDP). The percentage female in the contracts ranged from 50.1% to 69.8% in 2015.
- For example, if a contract that implemented the intervention in 2015 had an HRM percentage of 1.04, the HRM intervention would have been associated with a lower HRM percentage compared to the no intervention group from 2014 to 2015.
- There was not a statistically significant difference in the HRM letter percentages between the prescriber plus member letter versus the prescriber only letter. Both the prescriber letter and the member letter had a statistically significant impact on the improvement of the HRM percentage.