OPTIMIZING HEALTH BY ADVANCING THE QUALITY OF MEDICATION USE

Sociodemographic Risk Adjustment of PQA Proportion of Days Covered (PDC) Measures Used in the CMS Medicare Part D Star Ratings Program

Health outcomes can be influenced by many factors other than the healthcare services received, including patient-related factors such as existing clinical conditions and sociodemographic status (SDS). SDS refers to a variety of socioeconomic (e.g., income, education, occupation) and demographic factors (e.g., age, race, ethnicity, primary language). To avoid incorrect conclusions or inferences about the quality of care delivered, it is important to control for these factors. Risk adjustment is a statistical method to account for patient-related factors when calculating performance measure scores. While there is broad agreement on risk adjusting healthcare services for clinical conditions, there is little consensus on the appropriateness of risk adjusting performance-based measures for SDS.

To address the issue of whether to adjust performance measures for SDS, the National Quality Forum (NQF) convened an expert panel in 2014. The panel recommended that performance-based measures should be risk adjusted for sociodemographic factors if these criteria are met: (1) there is a conceptual relationship between SDS and the outcome(s), and (2) there is empirical evidence that SDS affects the outcome(s) of interest.[1]

In response to the NQF recommendations, the Pharmacy Quality Alliance (PQA), as the measure developer and steward for several performance-based measures, convened a Risk Adjustment Advisory Panel (RAAP) to identify which PQA measures may be appropriate for SDS risk adjustment, and to recommend a valid risk adjustment methodology for those measures. The RAAP identified three PQA medication adherence measures (assessed by Proportion of Days Covered [PDC]) currently used in the Centers for Medicare & Medicaid Services (CMS) Medicare Part D Star Ratings program:

- PDC: Diabetes All Class Rate,
- PDC: Renin Angiotensin System (RAS) Antagonists, and
- PDC: Statins.

PQA contracted with CMS to conduct a study to assess the impact of SDS on these three measures.

The RAAP identified several SDS variables such as age, gender, race, and income for risk adjustment. Using variables that were associated with adherence (see Table 1), a risk-adjusted score was calculated for each Medicare Part D contract for all three PDC measures. Given the challenges in having access to certain SDS data, PQA explored a reduced risk adjustment model in addition to the full model (see Table 1).

[1] Risk adjustment for socioeconomic status or other sociodemographic factors. National Quality Forum website. http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=77474. Published August 15, 2014. Accessed May 2017.

For all three PDC measures in both the full and reduced models, the contracts with the lowest (1st decile) and highest (10th decile) performance rates tended to stay the same after risk adjustment. Most of the rate changes after risk adjustment occurred in the middle performing contracts, with more than 20% of health plans being adjusted to a higher decile and over 35% to a lower decile.

Based on these results, PQA puts forth the following recommendations pertaining only to the CMS Part D Star Ratings Program and its use of the three PDC measures:

- The measures should be risk adjusted for SDS characteristics to adequately reflect differences in patient populations.
- The measures should be adjusted for the following beneficiary-level SDS characteristics: age, gender, dual eligibility/Low-Income Subsidy (LIS) status, and disability status.
- The measures should be stratified by the beneficiary-level SDS characteristics listed above to allow health plans to identify disparities and understand how their patient population mix is affecting their measure rates.

These recommendations will be included in the 2018 PQA Measure Manual, and will be finalized in 2019 once PQA completes the NQF measure endorsement maintenance of the measures (NQF #0541).

It is important to note, although the results of this study show an impact of SDS risk adjustment on health plan ratings for the three PDC measures, it is unclear whether the changes in measure scores will significantly impact plans' Star Ratings. PQA shares this information as part of its efforts to develop and endorse valid and reliable measures that have a positive impact on patient care. It is the role of the measure user/implementer to apply measure specifications correctly and to adopt PQA's recommendations, including risk adjustment, where it is both feasible and useful.

Table 1: Variables Included in SDS Analysis for three PQA PDC (Adherence) Measures

Variable Level	Variable	Full Model	Reduced Model
Beneficiary	Age	✓	✓
	Gender	✓	✓
	Low-Income Subsidy (LIS) status or Dual eligibility status	✓	✓
	Disability as original reason for Medicare entitlement	✓	✓
	Race	✓	
Community (9-digit zip code)	Median income	✓	
	Percent of households where residents are married	✓	
	Percent of households where residents completed college	✓	
	Percent of households where residents own their home	✓	
County	Federally designated primary care professional shortage area	✓	
	Federally designated mental healthcare professional shortage area	✓	