Is There an Association Between the High-Risk Medication Star Ratings and Member Experience CMS Star Ratings Measures?

Sara C. Erickson, PharmD; R. Scott Leslie, MPH; and Bimal V. Patel, PharmD, MS

ABSTRACT

BACKGROUND: Methods to achieve high star ratings for the High-Risk Medication (HRM) measure are thought to result in unintended consequences and to compromise several member experience measures that ultimately put at risk the plan sponsor's Medicare Part D Centers for Medicare & Medicaid (CMS) star rating.

OBJECTIVE: To determine if HRM scores are associated with relevant member experience measure scores.

METHODS: This is a cross-sectional analysis utilizing CMS 2013 and 2014 plan star ratings reports (2011 and 2012 benefit year data) for Medicare Advantage prescription drug (MA-PD) plans and prescription drug plans (PDPs). Medicare contracts with complete data for all measures of interest in 2013 and 2014 star ratings reports were included (N = 443). Bivariate linear regressions were performed for each of 2 independent variables: (1) 2014 HRM score and (2) 2013 to 2014 change in HRM score. Dependent variables were the 2014 scores for "Getting Needed Prescription Drugs," "Complaints about Drug Plan," "Rating of Drug Plan," and "Members Choosing to Leave the Plan."

RESULTS: The bivariate linear regressions demonstrated weak positive associations between the 2014 HRM score and each of the 2014 member experience measures that explained 0.5% to 4% (R^2) of variance of these measures. The bivariate regressions for the 2013 to 2014 change in the HRM score and 2014 member experience measures of interest demonstrated associations accounting for 1% to 8% of variance (R^2). The greatest associations were observed between each independent variable and the 2014 "Getting Needed Prescription Drugs" score with correlation coefficients of 0.21 and 0.29.

CONCLUSIONS: HRM star ratings and change in HRM star ratings are weakly correlated with member experience measures in concurrent measurement periods. Plan sponsors may be more aggressive in HRM utilization management, since it is unlikely to negatively impact CMS summary star ratings.

J Manag Care Pharm. 2014;20(11):1129-36

Copyright© 2014, Academy of Managed Care Pharmacy. All rights reserved.

- Achieving high star ratings is associated with increased likelihood of new beneficiary enrollment and enrollment from existing Medicare beneficiaries switching from lower-rated plans. CMS quality bonus payments also provide increased revenue opportunities for plans with high star ratings.

What this study adds

- The results of this study indicate that the HRM star rating measure score and its improvement, prior to the implementation of the updated 2012 AGS Beers Criteria, have minimal influence on the member experience star ratings measure scores.
- This information may be used by plan sponsors in making informed decisions regarding HRM utilization management.

The late Mark H. Beers, MD, a geriatrician, is widely known for his contribution to geriatric care through the development of a list of potentially inappropriate medications (PIMs) used by the elderly. Published in 1991, the "Beers Criteria" of PIMs was developed to reduce inappropriate medication use in nursing home patients.¹ The 1997 update expanded the criteria for application to all ambulatory older persons.² The last update under Dr. Beer's auspices was published in 2003 and stood as the definitive criteria for nearly a decade.³ The American Geriatric Society (AGS) sponsored the 2012 Beers Criteria update, which included many improvements, such as following the Institute of Medicine standard of evidence and transparency for creating guidelines.^{4,5}

The use of the Beers Criteria expands beyond individual practitioners or institutions of care. The National Committee for Quality Assurance first included a performance measure based on the Beers Criteria known as "Use of High-Risk Medications in the Elderly," in the 2006 Healthcare Effectiveness Data and Information Set (HEDIS), a tool for health plans to measure care and service performance.⁶ The High-Risk Medication (HRM) measure was subsequently adapted and endorsed by the Pharmacy Quality Alliance (PQA), endorsed by the National Quality Forum, and adopted by the Centers for Medicare & Medicaid Services (CMS). Consistent with HEDIS and PQA, CMS included the revised 2012 AGS Beers Criteria into the HRM measure specifications for the 2015 star ratings for measuring HRM use in the 2013 benefit year. CMS includes the HRM measure in the Part D star

What is already known about this subject

- The Beers Criteria for potentially inappropriate medications to be used in the elderly and, more recently, the updated 2012 American Geriatric Society (AGS) Beers Criteria, have been adapted into the quality performance measure High-Risk Medications (HRM) used in Centers for Medicare & Medicaid (CMS) star ratings.
- CMS has placed an emphasis on the member experience with several star rating measures related to member satisfaction that have a greater total weight contribution to the overall summary star rating than the individual HRM star rating measure.

TABLE 1 CMS Star Ratings Measures Included in Analysis

Measure Label	Measure Description	Data Source	Weighting Value
High-risk medication	Percentage of plan members aged 65 years or older who received 2 or more prescription fills for the same drug with a high risk of serious side effects in the elderly	Prescription drug event data files submitted by drug plans	3
Getting needed prescription drugs	Case-mix adjusted percentage of the best possible score the plan earned on how easy it is for members to get the prescription drugs they need using the plan	CAHPS survey questions: In the last 6 months, how often was it easy to use your health plan to get the medicines your doctor prescribed? In the last 6 months, how often was it easy to use your health plan to fill a prescription at a local pharmacy? In the last 6 months, how often was it easy to use your health plan to fill prescriptions by mail?	1.5
Members' rating of drug plan	Case-mix adjusted percentage of the best possible score the plan earned from members who rated the prescription drug plan	CAHPS survey question: Using any number from 0 to 10, where 0 is the worst prescription drug plan possible and 10 is the best prescription drug plan possible, what number would you use to rate your prescription drug plan?	1.5
Complaints about the drug plan	Total complaints received about the drug plan per 1,000 members adjusted by average contract enrollment	Complaints logged into Complaint Tracking Module	1.5
Members choosing to leave the plan	The percentage of plan members who chose to leave the plan during the benefit year (does not include members who moved out of the service area)	Disenrollment reason codes in Medicare's enrollment system	1.5

CAHPS = Consumer Assessment of Healthcare Providers and Systems; CMS = Centers for Medicare & Medicaid Services.

ratings for Medicare Advantage prescription drug (MA-PD) plans and stand-alone prescription drug plans (PDPs).

Star ratings summarize the performance of contracted health and drug plans on various indicators of clinical quality, care access, customer service, and member satisfaction. Contracts receive 1 to 5 stars, with 5 stars representing the highest quality for each individual performance measure, as well as for aggregate groupings of like measures referred to as domains and an overall summary rating.

Star ratings are important to contracting plans for several reasons. The Affordable Care Act of 2010 requires quality bonus payments and rebates to be tied to star ratings.⁷ Also, low-performing contracts risk exclusion from Medicare, since past performance is a consideration in the approval of applications.⁸ Lastly, CMS star ratings are posted publicly to help beneficiaries choose plans. An association has been recently established between Medicare Advantage plan star ratings and enrollment numbers.⁹ Reid et al. (2013) found that new enrollees were more likely to enroll in plans with higher star ratings, and continuing enrollees were more likely to switch to plans with higher star ratings.⁹

The HRM star ratings measure is 1 of 5 triple-weighted medication-related patient safety measures that comprise 19% of the Part C rating or 54% of the Part D rating. CMS has also placed an emphasis on the member experience with several star rating measures related to member satisfaction. The management of HRMs within the prescription benefit may therefore be problematic for Medicare contracts. Low-touch

interventions, such as educational mailings intended to influence prescribing behavior, are not likely to have an immediate or dramatic effect. Requiring prior authorization approval for HRMs or formulary exclusion of HRMs are likely to cause significant member disruption, negatively impacting the member experience. HRMs are often older, generic medications that members have been able to obtain easily prior to turning 65 and enrolling in a Medicare plan. Safe, low-cost alternatives are not always available. Plans with poor HRM star ratings may be hesitant to implement management strategies with the assumption that this may have an unintended negative impact on member satisfaction scores, which have a greater total weight contribution to the overall summary star rating. The purpose of our analysis was to determine the relationship of the HRM score and the change in HRM score to relevant member experience measures.

Methods

Study Design

This is a cross-sectional analysis utilizing the 2 most recently released CMS star ratings reports (i.e., the 2013 and 2014 star ratings reports that use 2011 and 2012 benefit years, respectively). These reports can be found on the CMS website.¹⁰

Data

Each October, prior to open enrollment for the upcoming benefit year, the most recent star ratings results are available on the CMS website. The report is named for the coming benefit year.

FIGURE 1 Medicare Contracts Included in 2013-2014 Star Ratings Reports and Included in Analysis

^aContracts were excluded if “No data available,” “Not enough data available,” “Plan too new to be measured,” or “CMS identified issues with this plan’s data” was indicated for any of the following measures: High-Risk Medications, Complaints about Plan, Getting Needed Prescriptions, Rating of Drug Plan, and Members Leaving Plan. HRM = high-risk medication.

For example, the star ratings report released in October 2013 is titled “2014 Medicare Part D Star Ratings Data,” since the information is intended to help beneficiaries select plans for the 2014 benefit year. The 2014 star ratings report released in 2013 reflects the performance of each Medicare contract during the 2012 benefit year. The majority of the data was collected throughout the 2012 benefit year, although some measures, such as those obtained from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data, were obtained in early 2013.

Each star rating measure has the contract’s calculated score presented, known as the base level. Thresholds are established to assign base-level measure scores a star rating based on a 5-star scale. These scores are rolled up to a domain star rating, and the domain star ratings are rolled up to a Part D summary rating and Part C summary rating (for MA-PD plans). In the 2014 star ratings for the 2012 benefit year, there were 15 Part D star ratings measures and 36 Part C measures that roll up to a total of 9 domains. The Part D score is the highest level for a PDP. MA-PD plans receive an overall rating that summarizes the 51 measures included in Part C and Part D measures.

The measures of interest for this analysis included the Patient Safety measure HRM and all measures that were deter-

mined to be potentially negatively impacted by formulary restrictions. Four measures within the domains of “Member Experience with the Drug Plan” and “Member Complaints, Problems Getting Services, and Improvement in the Drug Plan’s Performance” were included as follows: Getting Needed Prescription Drugs; Members’ Rating of Drug Plan; Complaints About the Drug Plan; and Members Choosing to Leave the Plan (Table 1).

Inclusion Criteria

Medicare contracts with base-level detail and star ratings for all measures of interest in both the 2013 and the 2014 star ratings reports were included. Contracts with “No data available,” “Not enough data available,” “Plan too new to be measured,” or “CMS identified issues with this plan’s data” in place of base data or star ratings for the 5 measures of interest were excluded (Figure 1).

High-Risk Medication Measure (Explanatory or Independent Variable)

The HRM performance measure for 2013 and 2014 star ratings (2011 and 2012 benefit year, respectively) is reported as the percentage of members aged 65 years and older enrolled during

TABLE 2 2013 and 2014 CMS Star Ratings Base Measure Results for Measures of Interest

Measure Label	Measure Detail	2013 CMS Star Ratings Report	2014 CMS Star Ratings Report
High-risk medication	Data time frame	January 1, 2011-December 31, 2011	January 1, 2012-December 31, 2012
	Base data range	2%-21%	1%-18%
	Base mean (SD)	8% (3%)	6% (3%)
Getting needed prescription drugs	Data time frame	February 15, 2012-May 31, 2012	February 15, 2013-May 31, 2013
	Base data range	84%-97%	85%-97%
	Base mean (SD)	91% (2%)	91% (2%)
Members' rating of drug plan	Data time frame	February 15, 2012-May 31, 2012	February 15, 2013-May 31, 2013
	Base data range	77%-95%	76%-96%
	Base mean (SD)	85% (3%)	85% (3%)
Complaints about the drug plan ^a	Data time frame	January 1, 2012-June 30, 2012	January 1, 2013-June 30, 2013
	Base data range	0-2.68	0-3.44
	Base mean (SD)	0.33 (0.28)	0.28 (0.28)
Members choosing to leave the plan	Data time frame	January 1, 2011-December 31, 2011	January 1, 2012-December 31, 2012
	Base data range	0%-48%	0%-64%
	Base mean (SD)	10% (7%)	11% (8%)

^aReported as complaints per 1,000 members.

CMS=Centers for Medicare & Medicaid Services; SD=standard deviation.

the benefit year with at least 2 fills for a prescription medication that has a high risk for adverse events in the elderly. The base score is calculated for members aged 65 years and older from prescription drug event claims data files provided by drug plans to CMS throughout the benefit year.

Patient Satisfaction Measures (Dependent Variables)

Getting Needed Prescription Drugs. Data for the Getting Needed Prescription Drugs performance measure are acquired through the CAHPS survey. Three questions from the CAHPS survey are used to calculate the Getting Needed Prescription Drugs base score:

- “In the last 6 months, how often was it easy to use your health plan to get the medicines your doctor prescribed?”
- “In the last 6 months, how often was it easy to use your health plan to fill a prescription at a local pharmacy?”
- “In the last 6 months, how often was it easy to use your health plan to fill prescriptions by mail?”

The CAHPS survey is administered between February 15 through May 31 after the benefit year by CMS-approved vendors by mail and telephone to a random sampling of members. The measure is reported as the percentage of the best possible CAHPS survey score. It is a case-mix adjusted measure that takes into account socioeconomic differences (such as age, education level, and dual eligibility) of enrollees across contracts.

Members' Rating of Drug Plan. The Members' Rating of Drug Plan performance measure is also a case-mix adjusted percentage of the best possible CAHPS survey score. The measure is based on the score of 1 question within the CAHPS survey: “Using any number from 0 to 10, where 0 is the worst prescription drug plan possible and 10 is the best prescription drug

plan possible, what number would you use to rate your prescription drug plan?” The data are collected by CMS-appointed vendors February 15 through May 31 after the benefit year.

Complaints about the Drug Plan. The Complaints about the Drug Plan performance measure is reported as the number of complaints received about the drug plan logged into the CMS Complaint Tracking Module (CTM) per 1,000 members. The CTM is a central repository for complaints received in either central or regional offices or 1-800-MEDICARE. Historically, CTM data from the first 6 months following the benefit year is used for the performance measure.

Members Choosing to Leave the Plan. The Members Choosing to Leave the Plan performance measure is reported as the percentage of members who chose to disenroll from the plan during the benefit year. This is calculated by taking the number of members who chose to disenroll using disenrollment codes in Medicare's enrollment system, excluding members who disenrolled due to reasons beyond their control (e.g., relocation out of the service area, disenrollment due to low-income subsidy reassignments, or not meeting requirements for special needs plans), and dividing the number by the number of members enrolled at any time during the benefit year.

Statistical Analysis

Bivariate regressions were performed for 2 independent variables: (1) 2014 star ratings HRM base score (2012 benefit year) and (2) the change in HRM base score from the 2013 to 2014 star ratings reports (2011 and 2012 benefit years; Table 2). The dependent variables were the member experience base scores in the 2013 and 2014 star ratings reports. Three of the 4

TABLE 3 Bivariate Linear Regression for All Plans with Complete Information for 5 Measures in 2013 and 2014 (n=443)

High-Risk Medication Measure (Independent Variable)	Member Experience Measure (Dependent Variable)	Beta Coefficient	Standard Error	R ²	P Value
2014 high-risk medication base	2014 getting needed prescription drugs base ^a	0.139	0.031	0.04	<0.001
	2014 rating of drug plan base ^a	0.066	0.045	0.005	0.14
	2014 complaints about drug plan base ^a	-1.067	0.427	0.01	0.013
	2014 members choosing to leave the plan base ^a	-0.260	0.126	0.01	0.04
2013-2014 change in high-risk medication base	2014 getting needed prescription drugs base ^a	0.213	0.034	0.08	<0.001
	2014 rating of drug plan base ^a	-0.113	0.050	0.01	0.02
	2014 complaints about drug plan base ^a	-1.372	0.471	0.02	0.004
	2014 members choosing to leave the plan base ^a	-0.574	0.137	0.04	<0.001
2014 high-risk medication base	2013 getting needed prescription drugs base ^b	0.551	0.035	0.02	0.002
	2013 rating of drug plan base ^b	0.051	0.045	0.003	0.27
	2013 complaints about drug plan base ^b	-1.447	0.439	0.02	0.001
2013-2014 change in high-risk medication base	2013 getting needed prescription drugs base ^b	0.155	0.038	0.04	<0.001
	2013 rating of drug plan base ^b	-0.146	0.050	0.02	0.004
	2013 complaints about drug plan base ^b	-1.569	0.485	0.02	0.001

^aDependent variable has the same benefit year (2012) as the 2014 HRM star rating.

^bDependent variable has the same measurement year (2012) as the 2014 HRM star rating.

HRM = high-risk medication.

member experience measures of interest are collected in a time period following the benefit year. It is therefore possible that changes in the formulary management of HRMs could affect member experience measures of the previous benefit year's star ratings report for members enrolled in the same contract in both years. Regressions were performed for each independent variable and dependent variable pair within the same report year and within the same year of data collection.

Regression analyses were also performed on a subgroup of Medicare contracts that achieved a 2-star or greater increase in the HRM measure from 2013 star ratings (2011 benefit year) to 2014 star ratings (2012 benefit year). These contracts may represent those that made significant changes in the management of HRMs to achieve this improvement.

If achieving an excellent HRM base score (lower is better) was associated with a negative impact on member experience measures, positive associations would be observed for the 2 measures Getting Needed Prescription Drugs and Rating of Drug Plan (higher is better) and negative associations would be observed for the 2 measures Complaints About the Drug Plan and Members Choosing to Leave the Plan (lower is better).

Bivariate linear regression models were performed in Microsoft Excel 2010. A two-tailed *P* value <0.05 was considered statistically significant.

Results

Medicare contracts included in the 2013 and 2014 star ratings reports (2011 and 2012 benefit years, respectively) with complete information for all 5 measures of interest were included

in regression models. A total of 443 contracts were included, which represents 73.5% of the total Medicare contracts present in both years and 80.7% of the total Medicare contracts with summary star ratings for both years (Figure 1). The distribution of organization type was similar for Medicare contracts with complete information for all 5 measures of interest in the 2013 star ratings, Medicare contracts with complete information for all 5 measures of interest in 2014 star ratings, and Medicare contracts meeting both criteria. The most prevalent organization type (83.1%-83.3%) was local coordinated care (CCP) MA-PD plans.

Medicare contracts achieving a 2-star or greater improvement in the HRM star ratings between the 2013 and the 2014 star ratings reports numbered 101. Of the 101 contracts, 81 (80.2%) had complete data for all measures of interest. The contracts in this subgroup had a greater proportion of local CCP MA-PD plans (87.7% vs. 83.1%-83.3%) and private fee-for-service plans (4.9% vs. 2.0%-2.4%) compared with all plans with complete information for the measures of interest.

The bivariate linear regressions demonstrated associations that accounted for 1% to 4% (*R*²) of variance between the explanatory and dependent variables between the 2014 star ratings HRM base score and 3 of the 4 2014 star ratings member experience measures: Getting Needed Prescription Drugs (*R*²=0.04; *P*<0.001); Complaints about Drug Plan (*R*²=0.01; *P*=0.013); and Members Choosing to Leave the Plan (*R*²=0.01; *P*=0.04; Table 3). As the data collection is measured after the benefit year for 3 of the 4 member experience measures, bivariate linear regressions were performed for the 2014 star ratings

TABLE 4 Bivariate Linear Regression for All Plans with Complete Information for 5 Measures in 2013 and 2014 and a ≥ 2 -Star Increase in HRM Measure Stars (n=81)

High-Risk Medication Measure (Independent Variable)	Member Satisfaction Measure (Dependent Variable)	Beta Coefficient	Standard Error	R ²	P Value
2013-2014 change in high-risk medication base	2014 getting needed prescription drugs base ^a	0.267	0.112	0.07	0.02
	2014 rating of drug plan base ^a	0.205	0.155	0.02	0.19
	2014 complaints about drug plan base ^a	0.356	2.340	0.0003	0.88
	2014 members choosing to leave the plan base ^a	-0.078	0.500	0.0003	0.88
2013-2014 change in high-risk medication base	2013 getting needed prescription drugs base ^b	0.177	0.124	0.03	0.16
	2013 rating of drug plan base ^b	0.076	0.157	0.003	0.63
	2013 complaints about drug plan base ^b	-1.829	1.397	0.02	0.19

^aDependent variable has the same benefit year (2012) as the 2014 HRM star rating.

^bDependent variable has the same measurement year (2012) as the 2014 HRM star rating.

HRM=high-risk medication.

HRM base scores and the 2013 star ratings member experience measures with data collection in the same calendar year. The 2014 HRM measure had associations with the 2013 star ratings Getting Needed Prescription Drugs ($R^2=0.02$; $P=0.002$) and Complaints about Drug Plan ($R^2=0.02$; $P=0.001$), explaining 2% (R^2) of variance. The 2014 HRM base score was not significantly associated with the 2013 or the 2014 Rating of Drug Plan measure scores.

The bivariate regressions using the change in HRM base score from the 2013 to the 2014 star ratings reports as the explanatory variable demonstrated associations accounting for 1% to 8% of variance with 2014 member experience measures of interest: Getting Needed Prescription Drugs ($R^2=0.08$; $P<0.001$); Rating of Drug Plan ($R^2=0.01$; $P=0.02$); Complaints about Drug Plan ($R^2=0.02$; $P=0.004$); and Members Choosing to Leave the Plan ($R^2=0.01$; $P<0.001$). Associations between the change in the HRM base score and the 2013 member experience measures of interest with overlapping data collection time frames explain 2% to 4% (R^2) of variance: Getting Needed Prescription Drugs ($R^2=0.04$; $P<0.001$); Rating of Drug Plan ($R^2=0.02$; $P=0.004$); and Complaints about Drug Plan ($R^2=0.02$; $P=0.001$).

As with the 2014 HRM base score explanatory variable regressions, the associations between the 2013-2014 change in HRM base score and the Complaints about Drug Plan base score dependent variables (2013 and 2014) and 2014 Members Choosing to Leave the Plan were consistently negative. Also consistent with the 2014 HRM base score explanatory variable regressions, the 2013-2014 change in the HRM base score explanatory variable and Getting Needed Prescriptions Drug measures (2013 and 2014) were consistently positively associated. In contrast to the 2014 HRM base score regressions, which did not demonstrate an association with Rating of Drug Plan scores, the change in HRM measure base scores from 2013 to 2014 had negative associations with both the 2013 and 2014

Rating of Drug Plan measure base scores, which explain 1% to 2% of the variance (R^2).

Bivariate regressions were performed using the change in HRM base scores for a subgroup of Medicare contracts that achieved a 2-star or greater improvement in the HRM measure (Table 4). The only significant association between the explanatory variable and member experience measures was for the 2014 Getting Needed Prescription Drugs measure ($P=0.02$), which explains 7% (R^2) of the variance in the model.

Discussion

The results of this analysis indicate that the HRM score and the HRM score change are marginally able to predict member experience star ratings measure scores. The HRM score and the HRM score change had the greatest influence on the Getting Needed Prescription Drugs measure ($R^2=0.04$ and $R^2=0.08$, respectively). However, the magnitude of this association is small. The corresponding correlation coefficients (R) of 0.21 and 0.29 suggest that there are likely limited linear associations between the variables.¹¹ Scatter plots of the data points (plots not shown) for each dependent and independent variable pair show single clusters with 1 to 4 outliers. Bivariate regressions were repeated after excluding outliers. The size of the variance and association did not change appreciably after removing the outliers (data not shown). The only change in the significance testing occurred for the result of the 2014 HRM and the 2014 Complaints about Drug Plan regression, which became nonsignificant after outlier removal.

The HRM score was generally more predictive of the concurrent member experience star ratings measures than previous year's member experience star ratings measures. Since the member experience data are often captured after the benefit year, the effect of HRM formulary restrictions may be diluted over multiple years. The 2013 to 2014 star ratings report change in the HRM score explained more variance in the

models than the 2014 the HRM score. It is intuitive that an increase in HRM score, the more significant of which is likely the result of increased formulary restrictiveness, would be more likely to be associated with a marked impact to member experience measures. The models' beta-coefficients suggest that HRM score improvement negatively impacts all member satisfaction measures.

However, the results indicate an overall minimal contribution to the member experience measures. This is likely due to many factors influencing the overall member experience and the intentionally broad nature of the CAHPS survey questions. That is, there may be several reasons influencing member response to the CAHPS survey questions that may or may not be related to HRM usage. Members may give greater consideration to perceived cost burdens, consisting of pharmacy benefit premiums and prescription copayments, rather than to prescription medication access when rating their prescription drug plans or choosing to leave their plans. It is also possible that the timing of survey administration chosen by CMS results in significant recall bias. Additionally, only a small proportion of members surveyed are likely to have utilized or tried to fill an HRM. The mean prevalence of members meeting HRM criteria for the 2014 star ratings report across all contracts is 6%.¹⁰ The degree of restrictiveness and the extent to which drug utilization is managed through prior authorization across the entire formulary may have considerable negative repercussions on the Getting Needed Prescription Drug star rating, compared with strict management of the HRM category alone. Plans with greater HRM dispensing rates may observe a more significant impact on patient satisfaction measures by restricting access to HRMs than plans with smaller HRM prevalence.

The subanalysis of Medicare contracts achieving a 2-star or greater increase in the HRM measure yielded 1 significant regression between the change in the HRM score and the 2014 Getting Needed Prescription Drugs that explained 7% of variance. Contracts with a 2-star or greater increase represent those who likely implemented formulary changes between the 2011 and 2012 benefit years to restrict the use of HRMs. It is likely that these improvements were accomplished through formulary restrictions, since educational outreach is generally associated with more gradual improvements. However, the specific utilization management techniques employed by these plans are unknown, and some interventions may have greater negative impact on the Getting Needed Prescription Drugs score than others. The subanalysis may also be limited by the small sample size (n = 81) and unmeasured differences from the entire cohort of contracts.

Limitations

The applicability of these results may be limited by the changes in the HRM list. Beginning with the 2015 star ratings (2013

benefit year), the HRM star ratings measure has been updated based on the 2012 AGS Beers Criteria. There are many significant differences between the HRMs listed prior to the 2013 benefit compared with the present version. Many medications were deleted (e.g., cimetidine, diazepam, and phentermine), and several new medications have been added (e.g., glyburide, indomethacin, and guanfacine). Another significant change is the addition of medications with daily dosage or cumulative days' supply limits in addition to or in place of the 2 fills criterion. Nonbenzodiazepine hypnotics (i.e., esczopiclone, zolpidem, and zaleplon) are included as HRMs when the cumulative days' supply is greater than 90 days. Future analysis should be conducted to determine the relationship between HRM management strategies, HRM score, and member experience scores in the 2015 star ratings (2013 benefit year) and beyond.

Other limitations of this analysis include not being able to control for socioeconomic differences in patient populations across Medicare contracts. This study used publicly available Medicare contract performance results, which do not include demographic data. Also, we did not have access to reasons for disenrollment or to complaint type logged in the CTM, which may explicate the impact of formulary restrictions on these measures.

Conclusions

The results of regression analyses suggest that the HRM star rating measure score and its improvement have minimal influence on the member experience star ratings measure scores. Plan sponsors may be more aggressive in the management of HRM utilization to increase patient safety and clinical quality without compromising member experience performance measures. Safety-related formulary restriction implementations intended to improve the HRM star rating score are unlikely to cause decreases in member satisfaction that would negatively impact summary star ratings. Furthermore, increasing the HRM star rating score is likely to improve summary star ratings. Further research is needed to determine the impact of different methods of HRM star rating improvement on member satisfaction using the current AGS Beers Criteria.

Authors

SARA C. ERICKSON, PharmD, is Health Outcomes Researcher; R. SCOTT LESLIE, MPH, is Health Outcomes Researcher; and BIMAL V. PATEL, PharmD, MS, is Director, Health Outcomes Research, MedImpact Healthcare Systems, Inc., San Diego, California.

AUTHOR CORRESPONDENCE: Sara C. Erickson, PharmD, MedImpact Healthcare Systems, Inc., 10181 Scripps Gateway Ct., San Diego, CA 92131. Tel.: 858.790.7494; E-mail: Sara.erickson@medimpact.com.

DISCLOSURES

This research was conducted by MedImpact Healthcare Systems, Inc., San Diego, California, without external funding. All authors are employed by MedImpact Healthcare Systems, Inc.

Study concept and design were contributed by Erickson, Patel, and Leslie. Erickson collected the data, which were interpreted by Erickson, Leslie, and Patel. Erickson wrote the manuscript, which was revised by Leslie and Patel.

REFERENCES

1. Beers MH, Ouslander JG, Rollingher I, Reuben DB, Brooks J, Beck JC. Explicit criteria for determining inappropriate medication use in nursing home residents. *Arch Intern Med*. 1991;151(9):1825-32.
2. Beers MH. Explicit criteria for determining potentially inappropriate medication use by the elderly: an update. *Arch Intern Med*. 1997;157(14):1531-36.
3. Fick DM, Cooper JW, Wade WE, Waller JL, Maclean JR, Beers MH. Updating the Beers criteria for potentially inappropriate medication use in older adults: results of a US consensus panel of experts. *Arch Intern Med*. 2003;163:271(22):2716-24.
4. The American Geriatrics Society 2012 Beers Criteria Update Expert Panel. American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc*. 2012;60(4):616-631. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3571677/>. Accessed September 25, 2014.
5. Graham R, Mancer M, Wolman DM, Greenfield S, Steinberg E, eds. *Clinical Practice Guidelines We Can Trust*. Institute of Medicine. Washington, DC: National Academies Press; 2011. Available at: <http://www.iom.edu/Reports/2011/Clinical-Practice-Guidelines-We-Can-Trust.aspx>. Accessed September 25, 2014.
6. National Committee for Quality Assurance. *HEDIS 2006 Technical Specifications*. Item 10284-100-06. Washington, DC: National Committee for Quality Assurance; 2005.
7. Kaiser Family Foundation. Quality ratings of Medicare Advantage Plans: key changes in the health reform law and 2010 enrollment data. Issue Brief. September 2010. Publication #8097. Available at: <http://kaiserfamilyfoundation.files.wordpress.com/2013/01/8097.pdf>. Accessed September 25, 2014.
8. Tudor, CG. 2012 application cycles past performance review methodology. Memo dated December 12, 2010. Center for Medicare. Available at: http://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/PastPerformanceMethodology_121010Final.pdf. Accessed September 25, 2014.
9. Reid RO, Deb P, Howell BL, Shrank WH. Association between Medicare Advantage plan star ratings and enrollment. *JAMA*. 2013;309(3):267-74.
10. Centers for Medicare & Medicaid Services. Parts C & D performance data. 2014 Part C & D Medicare star ratings data. Available at: <http://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/PerformanceData.html>. Accessed September 25, 2014.
11. Elston RD, Johnson WD. *Essentials of Biostatistics*. Philadelphia, PA: FA Davis, Co.; 1987.