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Evaluation of Pharmacists' Knowledge of Centers for Medicare and Medicaid Services Medication Drug Plan Star Ratings

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Abstract

Objectives: 1) Evaluate Ohio pharmacists' awareness about Centers for Medicare and Medicaid Service's (CMS) Medication Drug Plan (MDP) Star Ratings, 2) identify gaps in knowledge about CMS MDP Star Ratings, and 3) determine interest in continuing education (CE) opportunities with CMS PDP Star Ratings.

Methods: A cross-sectional, online survey was conducted in February 2015. The 16-question, pilot-tested survey targeted licensed pharmacists in Ohio practicing in the ambulatory care or community setting. Respondents were surveyed on their self-assessed and actual knowledge on CMS MDP Star Ratings. Respondent's interest in and preferred source and delivery of CE were evaluated. Data were collected in aggregate; descriptive statistics, ANOVA and chi-square tests were used to characterize and evaluate data. Responses were summarized for all 16 questions using frequencies and percentages.

Results: Of 13,235 licensed Ohio pharmacists, 913 pharmacists completed the survey (6.9% response rate). 454 (49.7%) respondents were eligible to complete the survey based on practice setting and of those, 390 (85.9%) were aware of CMS's MDP Star Ratings. Respondents' self-assessment of their knowledge regarding CMS Star Ratings aligned with their actual knowledge as defined by performance on three multi-statement knowledge-based assessments. Significant differences existed between self-assessed knowledge groups in their ability to answer greater than 50% of questions correctly (p < .001). The majority of respondents (81.2%) indicated interest in receiving further education on CMS Star Ratings.

Conclusions: Survey respondents are aware of CMS MDP Star Ratings, yet few indicated high knowledge levels on the topic. Gaps in knowledge were identified in development and utilization of the rating system, identifying quality measures, and sources utilized to measure achievement of ratings. Respondents indicated interest in opportunities to improve knowledge on the subject and would prefer education provided by their employer with a live presentation.

Keywords: pharmacist, CMS Star Ratings, pharmacy services, continuing education

Introduction

The pharmacist's role in healthcare is shifting as evidenced by legislation across the country expanding pharmacist practice in states such as Washington, Oregon, California, and Ohio. [1-5] Opportunities such as collaborative practice agreements, medication therapy management, naloxone dispensing without a prescription, and medication synchronization provide pharmacists with the tools to offer a wide range of patient care. While this expanded scope of practice provides opportunities for all pharmacists, community and ambulatory care pharmacists in particular are uniquely qualified and positioned to improve patient outcomes and related quality measures through improving medication adherence, conducting patient safety interventions, and remedying gaps and optimizing medication regimens. These types of interventions and related outcomes align with the quality measures rated in The Centers for Medicare and Medicaid Services' (CMS) Medication Drug Plans (MDP) Star Ratings.

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The CMS Star Rating System was implemented in 2007 in an attempt to define, measure, and reward quality healthcare achieved by Medication Drug Plans (MDP) such as Medicare Advantage and prescription drug plans.[6] Initially, the CMS Star Rating System was a tool for patients to identify high performing plans; however, in 2012, under the Affordable Care Act, CMS began utilizing the Star Ratings System as a tool to reward high performing plans with financial and non-financial incentives such as quality bonus payments and expanded enrollment benefits respectively.[6]

Plans are rated from one to five, with five as the highest rating, on 32 Medicare Part C and 15 Medicare Part D quality measures. Each quality measure is single to triple weighted with a triple-weighted measure counting three times that of a single weighted measure in the determination of the overall star rating. [7] In 2016, four of the nine triple-weighted quality measures were related to medication therapy. Moreover, five of the fifteen Part D quality measures were related to medication adherence and management.[7] The expected difference in quality bonus payments by moving from a three-star plan to a five-star plan is $16 per member, per month.[8] This is a significant fiscal opportunity for health plans. Thus, they are now evaluating pharmacies with the same quality metrics used by CMS to determine which pharmacies to include in their network.[9] This places pharmacists, particularly

those in outpatient settings like ambulatory and community, in an important position to provide care to patients to improve plan ratings.[8,10] A study conducted by Teeter et al found that pharmacists who were more knowledgeable on CMS Star Ratings offered more services and initiatives to impact those ratings.[11] Pharmacists can increase their value to their employers, patients, and to their own pharmacy by implementing services and initiatives to target these quality metrics.

Currently, there are few studies evaluating ambulatory care or community pharmacists' awareness or knowledge of the CMS Star Rating System.[11] The purpose of this study is to evaluate Ohio community and ambulatory care pharmacists' awareness of the CMS Star Rating System, identify gaps in knowledge about CMS Star Ratings, and determine interest in continuing professional development opportunities related to CMS Star Ratings.

Methods

This descriptive, cross-sectional study surveyed Ohio community and ambulatory care pharmacists. Email addresses for all licensed pharmacists in Ohio were obtained from the Ohio State Board of Pharmacy. The initial email invitation was sent in February 2015 via Qualtrics™, an online survey tool. A reminder email was sent out two weeks later; the survey closed after four weeks. Eligible respondents included licensed Ohio pharmacists who identified as practicing in the community or ambulatory care setting.

The survey consisted of 16 multiple choice questions gathering respondent demographics, assessing awareness and knowledge of the rating system, and interest in continuing education opportunities. If the respondent identified as practicing in the ambulatory or community pharmacy settings, s/he was asked about awareness of CMS Star Ratings. Respondents aware of the system were directed to self-assess their own knowledge on the topic. Respondent's knowledge on the topic was then assessed by three questions, which each consisted of multi-statement "yes/true", "no/false", or "do not know" assessments. The first knowledge-based question consisted of seven statements related to identifying quality measures. The second knowledge-based question consisted of five statements related to identifying mechanisms to measure achievement of CMS Star Ratings. The third knowledge-based question consisted of five statements related to the development and utilization of CMS Star Ratings. This categorization of the statements affiliated with the three knowledge-based questions was determined by investigators through proposal, review, discussion, and consensus. Interest in continuing education was assessed by a "yes/no" multiple choice question. Respondents interested in continuing education were directed to Likert-scale questions assessing preferred sources and delivery method of continuing education. To ascertain respondents' specific gaps in

knowledge, each statement within the three knowledge-based assessments was examined separately. An initial cut point of 50% was chosen by researchers as an initial representative marker for assessing knowledge and identifying gaps. If greater than 50% of respondents correctly answered that statement, it was considered to be understood. If less than 50% of respondents correctly answered that statement, it was considered a knowledge gap.

The survey was created by student researchers, faculty, and a Post-Graduate Year One (PGY1) pharmacy practice resident with experience in community pharmacy service development and provision. Knowledge-based questions were based on the CMS Star Ratings associated directly with medication use and may be relevant to ambulatory or community pharmacists. The survey was piloted by pharmacy practice residents in the community and ambulatory care settings to determine clarity of questions and time to complete the survey. Data from the pilot was not included in the results. This study was determined exempt from review by The Ohio State University Institutional Review Board.

In order to ensure only eligible respondents' awareness and knowledge was collected, those who identified as currently practicing in a setting other than community or ambulatory care were directed to the end of the survey. Those respondents who denied awareness of CMS Star Ratings skipped the knowledge-based questions; their actual knowledge was not measured. Respondents were not required to respond to any question, so response rates varied throughout the survey.

Responses were summarized for all 16 survey questions using frequencies and percentages. The primary focus included the three knowledge-based questions which aimed to assess respondents' actual knowledge on the rating system. These three questions were individually summarized and an overall percentage correct was determined for each question by calculating the proportion of "correct" statements for each question. Finally, the grand overall percent correct was calculated over all three questions. Differences in the overall percent correct were assessed between knowledge groups using analysis of variance (ANOVA). The overall percent correct was categorized into <50% and >50% and proportions were compared between knowledge groups using chi-square tests. All analyses were performed using SAS/STAT software, Version 9.4 of the SAS System for Windows (SAS Institute Inc., Cary, NC).

Results

A total of 13,235 surveys were sent to licensed Ohio pharmacists and 913 (6.9%) responded. Of those, 454 (49.7%) met eligibility criteria based on the pharmacy setting reported as community or ambulatory care. Most often, respondents identified as a Staff Pharmacist (45.6%) or Pharmacy Manager

(32.1%) (Table 1). 444 respondents answered the question, "Have you heard of Centers for Medicare and Medicaid Five-Star Quality Rating System (CMS Star Ratings)?" and 381/444 (83.9%) reported they were aware of CMS Star Ratings. Of these, place of employment (54.3%) and professional pharmacy organizations (21.1%) were ranked as the most common sites for exposure to CMS Star Ratings.

The 381 respondents who reported awareness of CMS Star Ratings self-assessed their level of knowledge related to CMS Star Ratings (very knowledgeable, knowledgeable, not knowledgeable) and answered three multi-statement, knowledge-based assessments to objectively measure their actual knowledge (Figure 1). Of the 381 eligible respondents, 335 (87.9%) completed the self-assessment question; 15 (4.5%) reported to be "very knowledgeable", 190 (56.7%) reported to be "knowledgeable", and 130 (38.8%) reported to be "not at all knowledgeable" about CMS Star Ratings. Knowledge-based assessment performance was compared to self-reported knowledge within each group and between groups. Those who reported to be "very knowledgeable" correctly answered a higher mean percent of the multi-statement knowledge-based assessments compared to those who reported to be either "knowledgeable" (p=0.017) "not at all knowledgeable" (p=0.017). Similarly, those who reported to be "knowledgeable" also correctly answered a higher percent of the multi-statement knowledge-based assessments compared to those who were "not at all knowledgeable" (p<0.001). More respondents with higher self-reported knowledge could answer at least 50% of the multi-statement knowledge-based assessments correctly (p< 0.001).

Overall, pharmacists correctly identified true quality measures of MDPs, but incorrectly identified non-measures as measures. Respondents more often correctly identified the mechanisms to measure achievement of CMS Star Ratings, but were frequently incorrect in recognizing how CMS Star Ratings are developed and utilized. (Figure 1)

For the three multi-statement knowledge-based assessments, respondents accurately reported the following statements regarding CMS Star Ratings as true: 1) Star Ratings is part of CMS' effort to define, measure, and reward quality healthcare; 2) quality measures of MDPs include percentage of patients who are diabetic and on an Angiotensin Converting Enzyme-Inhibitor/Angiotensin II Receptor Blocker, who are adherent to hypertension medications, and who are greater than 65 years old on high risk medications; 3) insurance companies may choose to exclude a pharmacy from its network for poor ratings; 4) plans that receive a 4 or 5 star rating may receive quality bonus payments from CMS while those who receive < 3 stars for 2 consecutive years may be dropped from CMS; 5) 4 stars is not the highest rating a plan can receive.

Knowledge gaps were identified as respondents incorrectly reported the following to be true: 1) pharmacies receive an overall rating; 2) quality measures of MDPs include percentage of patients who have heart failure and are on a beta blocker and who are adherent to injectable diabetic medications. More than 50% of respondents "did not know" that the Consumer Assessment of Healthcare Providers and System (CAHPS) and the Healthcare Effectiveness Data and Information Set (HEDIS) surveys are used by CMS to rate insurance plans or that plans can receive half ratings.

Finally, interest in continuing education on the topic was assessed 324 (81.2%) of 399 respondents were interested in receiving continuing education (CE) about CMS Star Ratings. Among those interested, desired sources for provision of continuing education included the respondent's employer (40.6%), pharmacy organizations (30.4%), a national CE Distributor (19.7%) and colleges of pharmacy (9.3%). Preferred delivery methods included live presentation (31.0%), written materials with self-study online (29.2%) and hard copy (22.9%), interactive presentation (9.2%), and a webinar (7.7%). Approximately 140 respondents indicated they would pay for an hour of CE; 63 (45.0%) respondents were willing to pay $1-10 per hour for CE.

Discussion
This study demonstrated Ohio community and ambulatory care pharmacists responding to our survey were aware of CMS Star Ratings and could accurately self-assess their knowledge level on the subject. Large gaps in knowledge were identified, especially related to CMS Star Ratings development and utilization. In order for pharmacists to fully engage with CMS Star Ratings, they must have adequate knowledge of the Star Ratings and how to impact them.

A previous study by Teeter et al evaluated community pharmacy owners' current awareness, knowledge, and attitudes towards CMS Star Ratings, their measurement, as well as initiatives being offered to improve patient care. Their results corroborated our results that while community pharmacy owners are aware of star ratings, they lack knowledge on how the ratings are calculated and used to evaluate performance.[11] This is an area of opportunity to educate pharmacists on how CMS Star Ratings apply to the pharmacy profession and overall, how pharmacies can collaborate to with MDPs and other healthcare providers to improve plan ratings. Demers et al described activities that can contribute to improving CMS Star Ratings for insurance plans. In community and ambulatory care practice environments, pharmacists can provide immunizations and medication therapy management services, engage in medication reconciliation and health screenings, and monitor and improve medication adherence.[17]

A 2013 stakeholder discussion of the challenges and opportunities associated with the CMS Star Rating System may also provide guidance on the role of community pharmacists in improving CMS Star Ratings. Findings from this stakeholder meeting show that community pharmacists are in an ideal position to help MDPs overcome barriers to medication safety and adherence due to their frequent patient interactions, relationships with patients and prescribers, their adjudication and prescription data, and their utilization of technology to communicate with patients.[10] By impacting CMS Star Ratings through optimizing medication regimens and adherence, pharmacists have the potential to improve the health of patients, thus, reducing health care costs.

Over half of the respondents in our study expressed desire for either live or online continuing education on CMS Star Ratings. Community pharmacies, state pharmacy organizations, and colleges of pharmacy were identified as main sources of exposure to CMS Star Ratings, and they would likely serve as the most useful venues for hosting continuing education opportunities. While the Pharmacy Quality Alliance and other national professional organizations have tackled this educational topic[18-20], the results or this survey question how many practicing pharmacists at the local level are accessing these training opportunities. Education for practicing pharmacists that is easily accessible, affordable, and offered in a variety of formats at the local level is an area of opportunity for academic institutions and professional organizations.

To our knowledge, this is the first study evaluating community and ambulatory care pharmacists' knowledge of CMS Star Ratings. Currently, publications about pharmacy and CMS Star Ratings are limited with regard to pharmacy engagement and primarily illustrate pay-for-performance models, the key players in these models, and their roles.[9-12] There is only one published study demonstrating the potential impact of pharmacist interventions on plan ratings. [16] This study, the Pennsylvania Project, evaluated the impact of pharmacy-based interventions on the adherence to five chronic medications. For patients taking statins and oral diabetic medications, pharmacists involved in the project saved $20 and $28 per member, per month, respectively. This translated into $1.4 million dollars in annual savings. Additionally, if the plan solely contracted with the intervention group, their CMS Star Rating would have increased by one star.[16] With few published studies demonstrating models to impact CMS Star Ratings and the lack of pharmacist knowledge about CMS Star Ratings found in our study, there exists a need and opportunity for pharmacist education as well as evaluation of pharmacist engagement with and impact on CMS Star Ratings.

Limitations
There are some limitations to this study. The survey had an overall low response rate, which could have been due the email delivery format and/or due to the study design targeting

a specific ambulatory and community care pharmacist population. Currently licensed pharmacists may not have the most up-to-date contact information listed with the State Board of Pharmacy; thus, all eligible pharmacists may not have received the survey. Additionally, the total number of pharmacists practicing in a community or ambulatory care setting in Ohio is unknown, so the true response rate cannot be calculated. Due to the exploratory nature of this descriptive survey, the authors selected 50% as a representative marker for assessing knowledge and identifying gaps. This cut point is not a validated threshold for knowledge could be a limitation. The low response rate and concerns about response bias do not allow these results to be generalized to the entire state of Ohio pharmacist population.

Conclusion
Respondents in Ohio demonstrated awareness of CMS Star Ratings; however, gaps in knowledge and interest in continuing education on the topic were identified. CMS Star Ratings and the associated incentives provide a tremendous opportunity for pharmacists to help improve ratings related to medication use for health plans. In order for pharmacists to engage with aiding plans' goals of achieving improved star ratings, it is critical to be aware of and knowledgeable about the CMS Star Ratings System first. As the Star Ratings System continues to have a larger impact on CMS medication drug plans, this study highlights results from practicing pharmacists in Ohio a need for structured pharmacist education opportunities (i.e. CE). These identified gaps in Ohio are relevant to colleges of pharmacy, employers, and organizations to consider local educational efforts; they also stimulate questions regarding level of knowledge and awareness of pharmacists in other states and encourage future studies on the interventions and impacts pharmacists can make through engaging with CMS Star Ratings.

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Table 1. Respondent Demographics

Characteristic	n (%) Respondents
Practice Setting	**n = 454**
Community Pharmacy	**423 (93.2%)**
Chain	175 (38.5%)
Independent	116 (25.6%)
Grocery/Supermarket	94 (20.7%)
Mass Merchandiser[a]	38 (8.4%)
Ambulatory Care Clinic	**31 (6.8%)**
Current Title	**n = 448**
Staff Pharmacist	204 (45.6%)
Pharmacy Manager	144 (32.1%)
Clinical Pharmacist	33 (7.4%)
Owner	32 (7.1%)
Other	17 (3.8%)
District or Regional Manager or Coordinator	10 (2.2%)
Clinical Coordinator	8 (1.8%)
Years Practiced	**n = 446**
> 30 years	115 (25.8%)
1-4 years	84 (18.8%)
20-29 years	82 (18.4%)
5-9 years	69 (15.5%)
15-19 years	49 (11.0%)
10-14 years	47 (10.5%)

[a] Mass merchandiser describes pharmacies that offer products beyond groceries, such as Costco, Walmart, etc.

Figure 1. Respondent Performance on Knowledge of CMS Star Ratings (n=335)
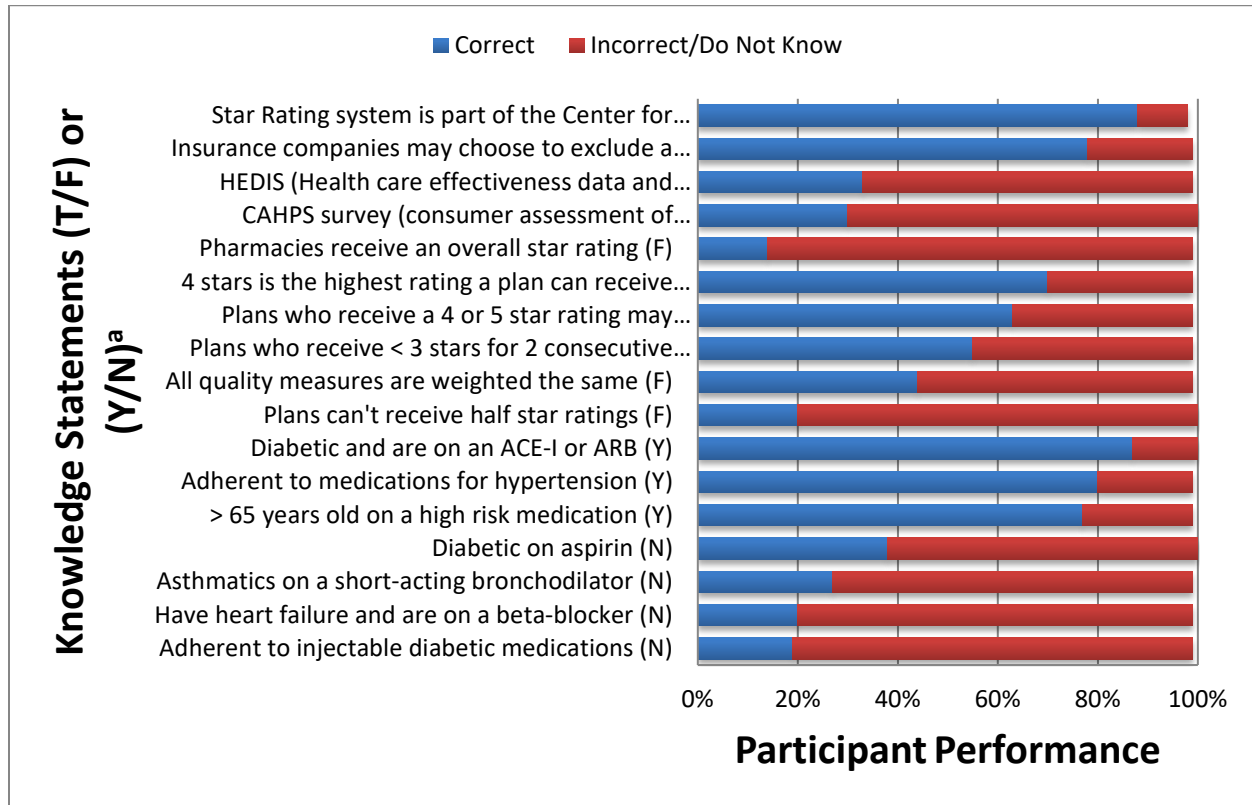
a T/F and Y/N in parenthesis next to each question indicate the correct response.