

# Pharmacist-Driven First-Dose Education Project to Improve HCAHPS Survey Scores

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**R**eedsburg Area Medical Center (RAMC) is a critical access hospital that has identified improving Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey scores as a priority.<sup>1</sup> The HCAHPS Survey is a 29-question patient satisfaction survey sent to a random sampling of patients after discharge from a hospital with the purpose of collecting national data on patients' perceptions of healthcare experiences. The HCAHPS Survey is administered between two and 42 days after hospital discharge and scores are made publicly available on a quarterly basis to allow patients to compare hospitals. Scores from the HCAHPS Survey are converted into a star rating to allow for easy comparison, with the highest-performing hospitals awarded five stars, lowest-performing hospitals awarded one star, and middle-performing hospitals awarded between two and four stars.

Since 2012, HCAHPS Survey scores have affected hospital reimbursement through Medicare via the Hospital Value-Based Purchasing Program. Hospitals with higher star ratings and overall performance on the HCAHPS Survey are provided higher rates of reimbursement through Medicare, while lower-performing hospitals are provided lower rates of reimbursement. Hospitals are therefore incentivized to achieve higher performance on HCAHPS Survey scores not only to provide the best service to their patients, but also for financial reasons. RAMC's current star rating is four out of five, leaving room for improvement in this area.

According to the publicly available HCAHPS Survey scores from 2019, nearby critical access hospitals are outperforming RAMC on a number of the survey questions, including the three questions that relate to medication use.<sup>1</sup> The three patient questions that directly relate to medication use are:

## Abstract

**Objective:** To implement a pharmacist-driven, first-dose education process to improve scores on medication-related Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey questions.

**Methods:** Pharmacists will identify new medications started in the hospital that patients are expected to continue after discharge. For each identified medication, pharmacists will provide a consultation emphasizing the purpose, directions for use, and main side effects of the medication, using a patient-friendly, medication-specific handout. The percentage of patients responding that staff always tell them what new medications are for; that staff always describe new medicine side effects in a way the patient can understand; and who strongly agree they understand the purpose of taking each of their medications at discharge will be trended monthly from implementation to conclusion. Scores after implementation will also be compared to scores from the year prior to implementation.

**Results:** By the end of the evaluation period, the HCAHPS Survey medication-related scores were higher than scores from the year prior to implementation for the percentage of patients responding that staff always tell them what new medications are for (54.55% in April 2021, versus 94.74% in April 2022); the percentage of patients reporting that staff always describe medicine side effects in a way the patient can understand (36.36% versus 63.16%); and the percentage of patients who strongly agree they understood the purpose for taking each of their medications at discharge (50% versus 76.19%).

**Conclusions:** A pharmacist-driven first-dose education process for medications patients are expected to continue after hospital discharge increased medication-related HCAHPS survey scores.

1. Before giving you any new medicine, how often did staff tell you what the medicine was for?
2. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?
3. When I left the hospital, I clearly understood the purpose for taking each of my medications.

In 2019, RAMC's percentage of patients reporting that staff always explain what new medicines are for was 77%, which was

lower than the average score of 87% across eight nearby critical access hospitals within 50 miles. RAMC also performed worse on the percentage of patients reporting that staff always describe possible side effects in a way they could understand (54% vs. 62%), and on the percentage of patients who reported that they strongly agree they understood the purpose of their medications when leaving the hospital (54% vs. 69%). To assess the difference in scores, the pharmacy departments at the eight nearby critical access hospitals were surveyed to

determine their process surrounding patient education, and to identify possible reasons for their better performance on HCAHPS medication-related questions. Based on responses from three of the eight hospitals, no clear reason was identified for those sites' better performance. In fact, RAMC's pharmacists actually provide more education to patients about medications throughout their hospital stays, which is contradictory to their overall lower performance on HCAHPS medication-related questions.

One hypothesis for RAMC's lower performance on HCAHPS medication-related questions is that the current workflow only has pharmacists involved in education about medications at discharge. Pharmacists provide discharge education to all inpatients with medication changes before they leave the hospital, but this education would not apply to two of the three medication-related HCAHPS survey questions, which specifically ask patients if they were provided education about their medications before receiving their first dose. Nurses are currently responsible for providing first dose education, but the education can be inconsistent when compared across nurses, because there is no standardization for the process. In addition, the detail provided during new medication education can vary based on the workload on the floor (for instance, less education may be provided when the hospital is busier). Lastly, nurses may not be as familiar with the medications for which they are responsible for providing education, compared to pharmacists, who are medication experts.

The hypothesis of this evaluation is that implementing a pharmacist-driven first-dose education process, wherein pharmacists will provide education to patients about new medications started in the hospital at the time they are ordered, will improve HCAHPS Survey medication-related scores and patient understanding of medications started in the hospital. A previous study using pharmacy students to provide patient education on medications newly started in the hospital reported improvements in HCAHPS medication-related scores over a four-month period, but solely utilized pharmacy students, and not pharmacists, to perform the education.<sup>2</sup> Other studies have shown that multimodal interventions from pharmacists (including involvement

in medication reconciliation, medication education, discharge education, and post-discharge follow-up phone calls) can lead to improvements in HCAHPS scores.<sup>3-5</sup> However, these studies reported on the improvements in HCAHPS scores due to multiple pharmacist interventions, instead of isolating the impact of pharmacist-provided first-dose education alone, and therefore findings are not directly comparable to this evaluation.

## Methods

RAMC is a 25-bed critical access hospital. The inpatient pharmacy has four full-time clinical pharmacists, one lead pharmacist, and a director of pharmacy. There are at least two clinical pharmacists on-site during weekdays, one who staffs the central pharmacy, and one who is decentralized on the medical/surgical unit.

Pharmacists identified all new medications started in the hospital that patients were expected to continue at discharge. This was done using the intervention (I-vent) feature in the Epic electronic health record (EHR) platform, which allowed direct pharmacist-to-pharmacist communication within the EHR. Pharmacists filled out a medication information template within the I-vent that specified the medication name, purpose, directions for use, side effects, warnings/precautions, and monitoring for each new medication. This template is customizable, and the most commonly prescribed medications at hospital discharge are pre-populated to save pharmacist time.

Once the pharmacist filled out the template, pharmacists published the completed medication information sheet as an EHR progress note to signify to other healthcare providers that first-dose education was being provided by the pharmacist. The pharmacist also printed a copy of the medication education sheet to bring to the patient's room, and performed a direct patient consultation (similar to how a pharmacist would provide a medication consultation in the outpatient setting). If the pharmacist was unable to complete the education directly (for instance, due to infection control restrictions), the pharmacist had the nurse bring the medication information sheet to the patient and provided consultation by phone. Patients kept the copy of the medication

information sheet in their discharge folder for reference during their hospitalization and after discharge. Once education was completed, pharmacists also documented that education was completed so another pharmacist did not repeat the same education process.

Patients were eligible for first-dose education from a pharmacist if they were admitted to the medical-surgical or intensive care unit at RAMC and were starting a new medication in the hospital that they were expected to continue at discharge (e.g., antihypertensive, antidiabetic, anticoagulant, or antihyperlipidemic medications). Patients did not receive first-dose education from the pharmacist if they were on other units in the hospital (e.g. birth center, emergency room), received a total joint replacement (these patients already receive education preoperatively at a "joint camp") or were expected to discharge to a facility where they will not manage their own medications (e.g., skilled nursing facility). Pharmacist discretion was used to determine if a medication was started for short-term use in the hospital versus likely to be continued at discharge.

IRB approval was not required because it was a quality improvement project.

## Results

Pharmacist-provided first-dose education was completed for 58 medications from November 2021 through April 2022. The most common medications educated on (in order) were: amlodipine, apixaban, warfarin, clopidogrel, aspirin, and lisinopril. All four full-time clinical pharmacists in the department reported subjective satisfaction with providing first-dose education to patients, and believed patients had a better understanding of their medications at the time of discharge from the hospital.

Results on HCAHPS Survey medication-related scores demonstrated an overall trend towards improvement, not only when comparing scores at the end of the evaluation period to scores from the previous year (April 2021 versus April 2022), but also when comparing scores from the beginning to the end of the evaluation period (November 2021 through April 2022). The percentage of patients reporting that staff always explain what new medicines are for increased by 40.24% compared to the previous year (54.55% in April 2021,

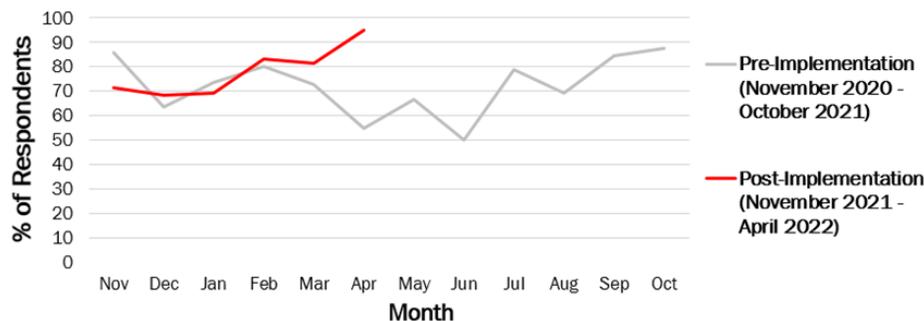
versus 94.74% in April 2022), and increased by 23.31% across the 6-month evaluation period (71.43% versus 94.74%) (Figure 1). The percentage of patients who report that staff always describe medicine side effects in a way the patient can understand increased by 26.8% compared to the previous year (36.36% versus 63.16%), and 13.16% across the evaluation period (50% versus 63.16%) (Figure 2). The percentage of patients who strongly agree that they understood the purpose of taking each of their medications at discharge increased by 26.19% compared to the previous year (50% versus 76.19%), and 23.25% across the evaluation period (52.94 versus 76.19%) (Figure 3).

## Discussion

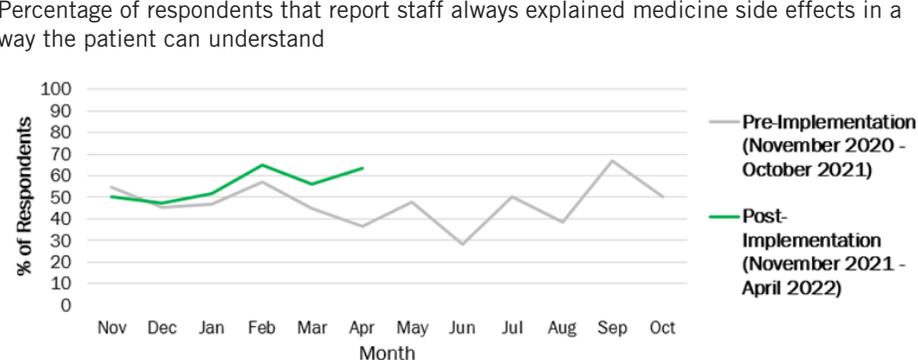
The HCAHPS Survey scores on medication-related questions increased compared to previous year's scores, and increased across the six-month evaluation period. Findings from this evaluation may be generalized to other hospitals. Sites may find this intervention most successful if they have pharmacists on-site 24/7, and expand the number of medications for which patients receive first-dose education. It is likely not feasible to have pharmacists provide first-dose education for every medication in the hospital; however, an interdisciplinary intervention that includes pharmacists, pharmacy students, nurses, respiratory therapists, and providers may be most effective. This was shown by Allen and colleagues who showed similar improvements in HCAHPS medication-related scores through the use of pharmacy students providing education on medications newly started in the hospital.<sup>2</sup> This study reported that over a 4-month period there was a 23% increase (statistically significant) in the percentage of patients always reporting that staff tell them what new medications are for, and a 6% increase (not statistically significant) in the percentage of patients reporting that staff always describe medicine side effects in a way they can understand.

When comparing scores from April 2022 (six months after implementation) to scores from April 2021 (scores from one year prior to implementation), one important difference is that education in early 2021 was being provided entirely via telephone due to restrictions during

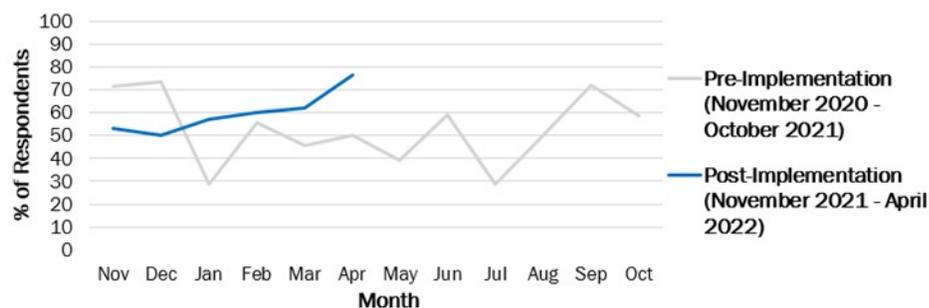
**FIGURE 1. Report Staff "Always" Tell What New Medications Are For**  
Percentage of respondents that report staff always tell what new medications



**FIGURE 2. Report Staff "Always" Describe New Medicine Side Effects in a Way They Can Understand**  
Percentage of respondents that report staff always explained medicine side effects in a way the patient can understand



**FIGURE 3. Report They "Strongly Agree" They Understood The Purpose of Each of Their Medicines at Discharge**  
Percentage of respondents that strongly agree they understood the purpose of each of their medicines at discharge



the COVID-19 pandemic, whereas in April 2022 in-person education had been resumed (except for patients with airborne restrictions). The quality and effectiveness of education provided over the phone may not be as high as the quality of education provided face-to-face, therefore limiting the usefulness of the comparison of scores from April 2021 to April 2022.

### Limitations

One limitation of this evaluation is that the HCAHPS Survey is sent to a random

sampling of patients after hospital discharge, so there is no way to determine whether the patients who took the survey actually received intervention (first-dose education) from the pharmacist. Therefore, although there was an improvement in the HCAHPS scores within the period, it is impossible to say with certainty that the improvement in HCAHPS scores is solely attributable to this intervention. Scores were also subject to bias due to the limited sample size (14-29 respondents per month).

Another limitation of this evaluation

is that, despite meeting inclusion criteria, numerous patients did not receive first-dose education from the pharmacist at the time the medications were ordered. The reasons for this are multifactorial. First, pharmacists are not on site 24/7 at RAMC so medications started overnight would not receive any first-dose education by the pharmacist. Second, to pilot this new workflow model, first-dose education was limited to medications the pharmacist expected patients to continue at discharge. This means that any intravenous (IV) medications, or medications temporarily started in the hospital (e.g., short-term antibiotics), were not educated on. Additionally, this evaluation required pharmacists to determine if they felt the medication ordered was for short-term use in the hospital, versus likely to continue at discharge. A pharmacist may have judged a medication as being only for short-term use and, therefore, not provided first-dose education, despite the medication being continued at discharge. Lastly, pharmacist time was limited, particularly during a

COVID-19 infection surge, resulting in high hospital census at RAMC from December 2021 to January 2022, and first-dose education may not have been completed due to higher-priority tasks and time constraints.

## Conclusion

Pharmacist-provided first-dose education for patients who were expected to continue newly prescribed medications after hospital discharge led to improvements in HCAHPS Survey medication-related scores.

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# CONGRATULATIONS CREATING SERVANT LEADERS

Throughout pharmacy school and residency training at Concordia, **Karina Rauenhorst, PharmD**, continues to grow as a leader and as a pharmacist. Congratulations on her election as President of the Northern Plains Province for Kappa Psi Pharmaceutical Fraternity.



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