

Improving Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Scores in a Community Hospital via Pharmacist and Student Pharmacist Interventions

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Abstract

Purpose: Patient satisfaction is one of the most important components of assessing the quality of healthcare facilities. In 2006, the Centers for Medicare and Medicaid Services (CMS) implemented the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey to capture specific elements of patient satisfaction. The publicly reported survey data is meant to create incentives for quality improvement and enhance accountability. In 2010, the Affordable Care Act allowed CMS to include HCAHPS scores among the measures to be used to calculate value-based incentive payments which help determine reimbursement rates for hospitals. This study will assess the impact that pharmacists and pharmacy students can have on HCAHPS scores through the discharge medication delivery (DMD) service with counseling. Additionally, this study will evaluate changes in 30-day readmission rates before and after implementation.

Methods: Patients were eligible for the DMD program if they were being discharged from one of three units of the hospital, the pulmonary, the cardiac, and the orthopedic unit, and were not being admitted to a rehabilitation or long-term care facility. When enrolled, patient's new medications were delivered to bedside prior to discharge. Patients were counseled on indication, duration, and common side effects of new medications from January 2019 through March 2019 throughout St. Elizabeth Edgewood. Top-box responses to HCAHPS survey questions from January 2017 through March 2017 prior to the DMD service were utilized to compare the impact of the service with counseling. In addition, readmission rates within 30 days of discharge have been obtained from retrospective chart review during the same timeframe and have been compared to rates following implementation of the DMD service with counseling.

Results: A total of 112 patients were counseled across three units. HCAHPS scores for question 25 (patient understood purpose of medication at discharge), question 16 (hospital staff told patient what the medicine was for), and question 17 (hospital staff told patient about medicine's side effects) were evaluated. HCAHPS scores across all three units were either maintained or increased in the intervention period. In some instances, the percentage of top-box responses decreased, however, relative to other hospitals the score improved, resulting in higher percentile rankings. Only the pulmonary unit showed a statistically significant increase in response to question 16, increasing from 77% (below average) in Quarter 1 of 2017 to 92% (90th percentile) in Quarter 1 of 2019 ($P=0.03$). Readmission rates for Quarter 1 of 2017 were 19.8% ($N=630$) for the pulmonary unit, 14.9% ($N=767$) for the cardiac unit, and 6.1% ($N=784$) for the orthopedic unit. Readmission rates for Quarter 1 of 2019 of patients that were counseled were 8.3% ($N=24$) for the pulmonary unit, 22.2% ($N=18$) for cardiac unit, and 2.9% ($N=70$) for orthopedic unit. No data for readmission rates was statistically significant.

Conclusions: HCAHPS survey top-box responses were increased or maintained post-intervention. An increase in patient responses to question 16 of the HCAHPS survey (hospital staff told patient what the medicine was for) was statistically significant. No other values were statistically significant. Although pharmacy can have a positive impact on HCAHPS scores and readmission rates, a larger study will be needed to show outcomes from additional counseling.

Keywords: Healthcare; Community hospital; Pharmacist; Rehabilitation

Introduction

Patient satisfaction is one of the most important components of assessing the quality of healthcare facilities. In 2006, the Centers for Medicare and Medicaid Services (CMS) implemented the Hospital

Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey to capture specific elements of patient satisfaction [1]. The survey asks recently discharged patients 32 questions about their hospital stay, with 21 core questions regarding critical aspects of hospital experience, including communication with physicians and nursing staff, pain, and, most importantly to pharmacists, communication about medicines and discharge information [2]. The publicly reported survey data is meant to create incentives for quality

improvement and to enhance accountability, and, in 2010, the Affordable Care Act allowed CMS to include HCAHPS scores among the measures to be used to calculate value-based incentive payments in the Hospital Value-Based Purchasing program, which help determine reimbursement rates for hospitals [1].

Pharmacists are well suited to assist in improving hospital HCAHPS scores. Multiple areas of the survey pertain to medications, with questions regarding how often hospital staff explained the purpose of any new medications and their possible side effects (questions 16 and 17) [2]. Additionally, one question pertains to transitions of care, asking whether patients understood the purpose for taking each of their medications when leaving the hospital (question 25) [2]. There are also questions surrounding a patient's pain, and how often providers communicated with the patient regarding their level of pain and how it was being treated (questions 13 and 14) [2]. These questions were recently changed by CMS to focus on communication about pain rather than actual pain management. Each of these questions open up possibilities for a pharmacist or student pharmacist to intervene. As the medication experts, pharmacist and student pharmacists are well-versed in the side effect profiles and indications of medications and can perform discharge counseling to ensure that all patients are fully aware of the importance of their medications.

There have been a multitude of studies performed assessing the impact of pharmacists' and student pharmacists' interventions on HCAHPS scores. Delgado and colleagues implemented a new service in 2011 in which student pharmacists, as an extension of the pharmacist, performed medication histories, education on drug indication and adverse effects, discharge counseling, targeted disease counseling, and profile review for drug-related problems for their patients [3]. After the implementation of this model, they observed a 12% improvement in the hospital's HCAHPS scores, as well as other measures [3]. Additionally, a pilot study in 2013 at another Cleveland Clinic facility assessed the impact of having a pharmacist perform daily medication counseling on indications and side effects of medications [4]. In this study, they observed a statistically significant increase of 43% ($p=0.007$) in the percentage of patients who answered "always" to question 17 of the HCAHPS survey (communication about side effects) compared to one month prior to the intervention [4]. Finally, a retrospective pilot study compared surgical patient responses to two pain-related questions in the HCAHPS survey before and after comprehensive pharmacist involvement in a preoperative education program [5]. Pharmacists discussed pain medications, their proper use, and potential side effects, as well as other medications such as anti-coagulants. In this study, the researchers observed a statistically significant increase of 3.86% ($p=0.018$) in responses to the HCAHPS survey question 14, which, prior to the change by CMS, read "During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?" [5].

This data highlights the potential impact of pharmacists' and student pharmacists' interventions on medication education and their relation to HCAHPS scores, which could translate into improved reimbursement rates for the hospital. The following study is proposed to assess the impact of current student pharmacists' interventions on discharge medication delivery, medication reconciliation and side effect counseling on the pulmonary, cardiac, and orthopedic surgery units of the Edgewood campus of St. Elizabeth Healthcare.

Methods

Study design

This study was a single center, prospective, pre and post-intervention chart review. The study took place at St. Elizabeth Healthcare, a 500-bed community hospital located in Edgewood, Kentucky. Patients were targeted for inclusion through the discharge medication delivery (DMD) program which allowed patients the opportunity to fill discharge prescriptions at our outpatient pharmacy and have them delivered to the bedside before the patient left the hospital. The DMD program focused on getting new medications to patients prior to discharge but was also available for any existing medications at the patient's request. Patients from three floors were targeted: pulmonary, cardiac, and the orthopedic surgery units. Pre-intervention data was analyzed from quarter 1 of 2017 (January 1st-March 31st), and post-intervention data was analyzed from quarter 1 of 2019 (January 1st-March 31st). The study consisted of four primary parts: discharge medication counseling, implementation of common medication sheets for nurses, evaluation of HCAHPS survey responses, and comparison of 30-day readmission rates. The primary outcome was the change in top box responses to question 25 of the HCAHPS survey. This was the "strongly agree" patient response to question 25 of the HCAHPS survey, "When I left the hospital, I clearly understood the purpose for taking each of my medications". Secondary outcomes were the changes in top-box responses of "always" patient response to question 16 of the HCAHPS survey, "Before giving you any new medicine, how often did hospital staff tell you what the medicine was for" and question 17 of the HCAHPS survey, "Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand"? An additional secondary endpoint of 30-readmission rates was evaluated for quarter 1 of 2017 for all patients and quarter 1 of 2019 for those patients who received counseling.

	January	February	March	Total
3C Pulmonary Unit	9	7	8	24
6D Cardiovascular Unit	N/A	11	7	18
7D Orthopedic Unit	28	32	10	70
Total Patients Counseled	37	50	25	112

Table 1: Patients Counseled by Month.

Nursing handouts

In addition to patient counseling, quick reference nursing handouts were developed for use on each of the study floors. These handouts were developed by evaluating active patient charts for the most common new medications administered to patients on each different floor. A table consisting of overall common hospital medications was developed including the drug class, common uses, brand and generic name, as well as common side effects. On the flip side of handout was another table consisting of medications specific to the unit. These were to be laminated and attached to each workstation on wheels (WOWs) to allow for nurses to quickly reference possible side effects prior to new dose administration. However, during the timeframe of this study these handouts were still under nursing review and not yet implemented.

Statistics

All statistical analysis was performed using SigmaPlot® (Version 13.0, Systat Software, San Jose, CA). Chi-square analysis was performed on all categorical data variables. The α -value was set at 0.05 for statistical significance.

Results

HCAHPS scores

A total of 112 patients were counseled across three units (see Table 1). HCAHPS scores for question 25 (patient understood purpose of

medication at discharge), question 16 (hospital staff told patient what the medicine was for), and question 17 (hospital staff told patient about medicine’s side effects) were evaluated. Results for the HCAHPS scores can be found in Table 2. HCAHPS scores across all three units were either maintained or increased in the intervention period. In some instances, the percentages decreased slightly, however, the score improved to a higher percentile relative to other hospitals. Only the pulmonary unit showed a statistically significant increase in response to question 16, increasing from 77% (below average) in Quarter 1 of 2017 to 92% (90th percentile) in Quarter 1 of 2019 (P=0.03).

Question	Unit	Quarter 1, 2017	Quarter 1, 2019
Question 25: When I left the hospital, I clearly understood the purpose for taking each of my medications.	3C Pulmonary Unit	0.67	0.77
	6D Cardiovascular Unit	0.54	0.7
	7D Orthopedic Unit	0.69	0.67
Question 16: Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?	3C Pulmonary Unit	0.77	92%*
	6D Cardiovascular Unit	0.75	0.74
	7D Orthopedic Unit	0.84	0.88
Question 17: Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?	3C Pulmonary Unit	0.57	0.69
	6D Cardiovascular Unit	0.47	0.46
	7D Orthopedic Unit	0.44	0.53

Table 2: HCAHPS scores. Red=below average; Black=at or above average; Blue=75th percentile; Green=90th percentile. *Statistically significant (P=0.03).

Readmission rates

Readmission rates for quarter 1 of 2017 were evaluated for all patients discharged from the floor. Readmission rates for quarter 1 of 2019 were evaluated for only patients that were counseled. Readmission rates both pre and post-intervention can be seen below in Table 3. Readmission rates for quarter 1 of 2017 were 19.8% (N=630) for 3C, 14.9% (N=767) for 6D, and 6.1% (N=784). Readmission rates for Quarter 1 of 2019 of patients that were counseled were 8.3% (N=24) for 3C, 22.2% (N=18) for 6D, and 2.9% (N=70) for 7D. No data for readmission rates was statistically significant.

Unit	Q1 2017 No counseling	DMD, no	Q1 2019 counseling	DMD,	P-value
3C Pulmonary	0.198		0.083		0.256
	N=630		N=24		
6D Cardiology	0.149		0.222		0.596
	N=767		N=18		
7D Orthopedics	0.061		0.029		0.396
	N=784		N=70		

Table 3: Readmission rates for quarter 1, 2017 and quarter 1, 2019. No values statistically significant.

Conclusion

HCAHPS scores play a huge role in the healthcare by creating objective and meaningful metrics for hospitals to improve upon. Pharmacists can have a positive impact on patient satisfaction and overall patient outcomes through counseling and other interventions. Identifying novel ways for pharmacy to positively impact HCAHPS scores and readmission rates will play a role to maintain adequate patient satisfaction and reimbursement rates for Medicare patients moving forward.

There were many limitations in this study. One limitation includes the small sample size in which we were able to counsel. While 112 patients may seem like a lot, it is a very small percentage of patients that were discharged from the three study floors during the intervention period. Since the HCAHPS survey is given at random, it is impossible to know which patients received counseling also received the survey. Also, due to the small number of participants, the study was not powered appropriately to detect an impact. In addition, there is variability in counseling between the resident pharmacist and the students. Lastly, there were additional counseling opportunities going on throughout the hospital during the time frame. In addition to patient counseling through the DMD program, APPE students on other rotations were counseling on all anticoagulants throughout the hospital. On the 3C pulmonary unit, pharmacists were participating in a collaborative care program counseling patient on COPD and their new medications. Additionally, nursing was doing more to counsel patients on medications prior to discharge from the hospital.

Although the improvements seen were not statistically significant, they still carry other relevance related to reimbursement rates and STAR ratings. Pharmacy can have a positive impact on HCAHPS scores and readmission rates, but a larger study will be needed to show outcomes from additional counseling.

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