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Original Article

The use of hospital consumer assessment of healthcare services and the Press Ganey medical practice surveys in guiding surgical patient care practices

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ABSTRACT

Background: Patient satisfaction questionaries have become popular in the past decade after the institution of the Patient Care and Affordable Care Act of 2010. This study evaluated whether the Hospital Consumer Assessment of Healthcare Services (H-CAHPS) and Press Ganey scores improved after institutional changes to the rounding system.

Methods: In the summer of 2017, utilizing H-CAHPS and Press Ganey scores, we asked whether switching from mid-level rounding providers to resident physicians improved patient care. Pre- and post-intervention groups, each lasting four quarters, were divided into care provided by mid-level personnel versus residents. For these periods, H-CAHPS respondent data were compared by a Chi-squared test ($P < 0.05$), while Press Ganey responses were analyzed with an independent samples t-test ($P < 0.05$).

Results: Significant improvement was noted in patients answering "Definitely yes" in recommending our institution in both H-CAHPS and Press Ganey satisfaction surveys. Significant improvement regarding the speed of discharge, instructions for post-hospital care, and the overall rating of care given was observed in the Press Ganey responses alone.

Conclusion: Significant improvement in satisfaction was noted in the Press Ganey responses regarding the discharge process and speed of discharge. The quality of this last encounter likely contributed to+ the significant improvement observed in both the H-CAPHS and Press Ganey Scores for an overall hospital stay and the percentage of those definitely recommending our institution.

Keywords: Hospital Consumer Assessment of Healthcare Services, Neurosurgery, Outcomes, Press Ganey

INTRODUCTION

Beginning in 2010 with the Patient Care and Affordable Care Act, the Centers of Medicare and Medicaid Services (CMS) identified "patient experience of care" as one of the five domains in an Accountable Care Organization (ACO).[6] In the past decade, the patient satisfaction surveys have been utilized to measure the quality of management strategies among healthcare providers.[7]

Two commonly used surveys, including the Hospital Consumer Assessment of Healthcare Services (H-CAHPS) and the Press Ganey Medical Practice Survey, are useful to quantify abstract

and complex concepts.[1,3,4,8] Utilizing both H-CAHPS and Press Ganey satisfaction surveys, we aimed to determine whether the mode of healthcare delivery was affected when mid-level providers or neurosurgical resident physicians saw patients and staffed them with attending physicians.

MATERIALS AND METHODS

Providers utilized for patient care

Our department quality initiative was to study the impact of resident rounding on floor patients and participation in the discharge process. Previously, mid-level providers (nurse practitioners and physicians assistants) handled a majority of the floor duties and discharges. The study period lasted from 2016 to 2018, covering a pre- and post-intervention period of 1 year [Table 1]. Pre-intervention was defined by mid-level providers handling floor and discharge duties. Alternatively, the post-intervention period was defined as resident care of floor patients. During the 2-year study period, the core surgical faculty at our academic program remained stable.

Hospital consumer assessment of healthcare services versus Press Ganey questionnaire

H-CAHPS and Press Ganey scores were reviewed beginning in the third quarter of 2016 through the second quarter of 2018. Five questions were taken from the H-CAHPS survey and were divided into pre-intervention and post-intervention groups. Twelve questions were taken from Press Ganey surveys and also divided into pre- and post-intervention groups. Responses were divided into "Definitely Yes" versus "All Other Responses" to allow for statistical analysis [Table 1].

Control group and exclusion criteria

Average H-CAHPS and Press Ganey scores from the same nine attending physicians were utilized as a control throughout all quarters measured. Case type and associated patient satisfaction scores were excluded from the analysis.

Statistical analysis

H-CAHPS scores were analyzed categorically and were reported as counts and percentages. Statistical analysis was performed using MedCalc version 13.1.0 (MedCalc Statistical Software BVBA, Ostend, Belgium) and charts were created utilizing Microsoft Excel 2010 (Microsoft Corporation, Redmond, Washington). A threshold level of $P < 0.05$ was considered statistically significant.

Press Ganey responses were analyzed categorically and presented as means with concurrent standard deviations. A threshold value of $P < 0.05$ was considered statistically significant. Ninety-five percentage CI was reported for the question results deemed statically significant.

Table 1: Study demographics.

	Pre-intervention	Post-intervention
Time	Q3 2017 to Q2 2017	Q3 2017 to Q2 2018
Providers	Mid-levels (PA, NPs)	Resident Physicians
H-CAHPS questions	**Number of participants (*n*)**	**Number of participants (*n*)**
Recommend the Hospital	148	185
Doctors treat with courtesy and respect	148	186
Doctors listen carefully to you	148	185
Doctors explain in a way you understand	147	183
Press Ganey questions	**Number of participants (*n*)**	**Number of participants (*n*)**
Time physician spent with you	166	197
Physician concern questions/worries	165	195
Physician kept you informed	164	194
Extent felt ready for discharge	166	197
Speed of discharge process	166	194
Instructions care at home	154	187
Addressed emotional needs	160	186
Response concerns/complaints	161	187
Staff included decisions regarding treatment	162	189
Staff worked together to care for you	168	199
Likelihood of recommending hospital	168	201
Overall rating of care given	165	199
Total number of attending physicians	9	9

H-CAHPS: Hospital Consumer Assessment of Healthcare Services

RESULTS

Hospital consumer assessment of healthcare services

For the survey question "Recommend the hospital," the proportion of survey participants that responded "Definitely yes" in the post-intervention period was statistically significant when compared to the pre-intervention period ($P = 0.037$). However, no statistical significance was observed in the following response categories: "Communication with doctors," "Doctors treat with courtesy/respect," "Doctors listen carefully to you," and "Doctors explain in a way you understand." Complete H-CAHPS data with corresponding *P*-values are included in [Table 2].

Press Ganey medical practice survey

Twelve categories of the Press Ganey medical practice survey were analyzed. For questions "Likelihood of recommending the hospital" and "Overall rating of care given," responses of "Definitely yes" versus "All other responses" were significant in the post-intervention group ($P = 0.03$ and $P = 0.02$, respectively). Patients responding with "Definitely yes" in the "Speed of discharge process" and "Instructions for care at home" were also significantly improved ($P = 0.00028$ and $P = 0.004$, respectively). The patient response to "Staff worked together to care for you," approached significance (0.051). Complete Press Ganey questionnaire data are included in [Table 3].

DISCUSSION

After the passage of the Patient Care and Affordable Care Act of 2010, the Joint Commission for the Accreditation of Healthcare Organizations mandated that health systems measure quality outcome indicators.[5] Press Ganey patient satisfaction surveys and H-CAHPS scores are two useful indicators regarding the quality of care delivered across different hospitals.

The patient satisfaction significantly improved in five H-CAHPS and Press Ganey domains when placing an increased emphasis on a physician-centered care model. Furthermore, the H-CAHPS question "Doctors treat you with courtesy" approached significance, and so there may be a higher perceived level of respect and less opportunity for miscommunication when patients are seen by physicians as opposed to physician extenders.

Approximately 98,000 deaths occur annually in U.S. hospitals as a direct result of medical errors.[7] However, continuity of care has been linked to improved outcome measures,

Table 2: Inpatient H-CAHPS analysis by comparing "Definitely Yes" versus "All Other Responses" to accurately compare data.

Question	Pre-intervention	Post-intervention	Mean difference	*P*-value
Would you recommend this hospital to your friends and family	54% (*n*=91)	65% (*n*=131)	11	0.037*
Communication with doctors	72% (*n*=122)	77% (*n*=156)	5	0.30
Doctors treat with courtesy/respect	78% (*n*=131)	86% (*n*=174)	8	0.053
Doctors listen carefully to you	70% (*n*=118)	76% (*n*=153)	6	0.23
Doctors explain in a way you understand	69% (*n*=116)	70.5% (*n*=141)	1.5	0.83

*Statistically significant. H-CAHPS: Hospital Consumer Assessment of Healthcare Services

Table 3: Inpatient Press Ganey question analysis by comparing "Definitely Yes" versus "All Other Responses" to accurately compare data.

Question	Pre-intervention	Post-intervention	Mean difference	*P*-value
Time physician spent with you	80.0±22.0 (*n*=166)	81.1±23.9 (*n*=197)	1.1	0.65
Physician concern questions/worries	85.0±19.9 (*n*=165)	85.0 ±20.8 (*n*=195)	0	1.0
Physician kept you informed	83.7±20.8 (*n*=164)	83.1±24.7 (*n*=194)	−0.6	0.81
Extent felt ready for discharge	81.5±22.0 (*n*=166)	83.1±20.3 (*n*=197)	1.6	0.47
Speed of discharge process	67.9±31.4 (*n*=166)	78.9±24.6 (*n*=194)	11.0 (5.19 to 16.8)	0.00028*
Instructions care at home	77.8±27.8 (*n*=154)	85.6±21.5 (*n*=187)	7.8 (2.55 to 13.05)	0.004*
Addressed emotional needs	77.6±25.6 (*n*=160)	81.6±23.8 (*n*=186)	4.0	0.13
Response concerns/complaints	76.7±26.1 (*n*=161)	80.1±25.1 (*n*=187)	3.4	0.22
Staff included decisions re: treatment	80.6±21.6 (*n*=162)	80.6±24.9 (*n*=189)	0	1.0
Staff worked together to care for you	82.2±23.4 (*n*=168)	86.8±21.6 (*n*=199)	4.6	0.051
Likelihood recommending hospital	77.4±29.3 (*n*=168)	83.9±26.5 (*n*=201)	6.5 (0.78 to 12.22)	0.03*
Overall rating of care given	80.3±26.4 (*n*=165)	86.2±23.1 (*n*=199)	5.9 (0.8 to 11)	0.02*

*Statistically significant, data are presented as mean and standard deviation. 95% confidence intervals are reported for those question results that were statistically significant as (lower limit and upper limit)

including a trend toward decreased rehospitalizations and fewer emergency room visits within 1 month of discharge.[8] In a study by Moore *et al*.,[8] half of all the patients studied had at least one medical error related to discontinuity of care when transitioning from the inpatient to outpatient setting. Alternatively, the implementation of a hospitalist model has shown to significantly improve outcomes inpatient care.[8] This model can be translated to postoperative care for neurosurgical patients. At our institution, resident physicians played a large role in the perioperative and postoperative planning process and had to sign out complex plans to less-informed mid-level providers. We hypothesize that such continuity of care can reduce medical error and miscommunication between the physician and patient, improve patient experience, and improve the physician-patient relationship, thus enhancing patient satisfaction.

A dissatisfied patient is less likely to remain loyal to a specific healthcare facility, be compliant with treatment, or participate in self-health maintenance.[1] Etier *et al*.[2] found patient satisfaction increased by almost 60% based on the perceived time that the provider spent with them. We found that a positive experience at discharge influenced the patient's feelings of how they perceived their care throughout their whole hospitalization. This would seem to suggest that the discharge process plays a very important part of the postoperative experience.

However, the linkage between neurosurgical procedures, outcome, and patient satisfaction may be problematic. Many extraneous factors play a role in patient response and satisfaction rates, as previous studies have pointed out that age, ethnicity, culture, personality, family support, and other factors have a significant influence on intended outcomes.[2,5,6] Rodgers *et al*.[6] showed that patient satisfaction was significantly higher in general surgery versus trauma patients, and thus, the patient's presenting condition may play a role in satisfaction scores. In the present study, a diverse array of pathologies and cases observed in a small sample size with multiple physicians (i.e., spine vs. cranial surgical intervention, fusion vs. microdiscectomy, etc.) would contribute to confounding. Although not separating outcomes by surgeons or case types may lead to clustering bias, the advantage of grouping multiple surgeons together without considering specific case types is that the differences in the patient satisfaction scores of individual neurological surgeons may be averaged out.

CONCLUSION

Here, using both Hospital Consumer Assessment of Healthcare Services (H-CAHPS) and the Press Ganey Medical Practice Surveys, we documented that direct resident contact with patients throughout their hospital stay improved patient satisfaction. This supports the notion that changing healthcare delivery in neurosurgical residency programs, with an emphasis on resident physician input inpatient care, can be a factor in improving patient satisfaction outcomes.

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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