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Research

Can specific feedback improve patients' satisfaction with hospitalist physicians? A feasibility study using a validated tool to assess inpatient satisfaction

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Abstract
The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is a patient satisfaction survey utilized for hospital reimbursement calculations. It is not, however, considered a valid measure of individual physician performance. The object of this study was to determine if the "Tool to Assess Inpatient Satisfaction with Care from Hospitalists" (TAISCH) instrument could be leveraged to improve patient satisfaction. A pragmatic pre/post study was conducted with adult inpatients admitted to either teaching or non-teaching general internal medicine services at a large mid-western academic medical center. TAISCH surveys were administered to patients (n=192) who were able to identify their hospitalist provider by name or photograph. An intervention consisting of performance cards (n=20) and group reflection sessions (n=13) was carried out. Pre- and post-intervention TAISCH surveys were administered over a period of approximately 18 months. Coinciding pre- and post-intervention HCAHPS scores were also collected. The results show physicians received significantly higher scores following the intervention on "checking for understanding" (4.63 vs. 4.82, p=0.026) and "confidence in provider" (4.45 vs. 4.64, p=0.048). Pre- and post-intervention HCAHPS "Top Box" scores were no different for any of the three doctor communication questions (explain p=0.086, listen p=0.19, courtesy and respect p=0.19). The TAISCH survey, while providing feedback that is more detailed, actionable, and individually attributable than the HCAHPS, is time and resource intensive and appears to be insufficient in isolation to improve patient perceptions of their hospitalist physician.

Keywords
Patient experience, patient satisfaction, HCAHPS, TAISCH, physician feedback, hospitalist performance

Background

Hospitals across the United States are focused on developing innovative, effective and sustainable initiatives to enhance the patient experience[1-4] and improve health outcomes.[5,6] Currently, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is the primary method for measuring the impact of physician communication on patient experience. Although the HCAHPS results are utilized for hospital reimbursement calculations, they are not considered a valid measure of the performance of individual physicians.[7,8]

The HCAHPS is a 32-item standardized survey of patients' perspectives of hospital care administered to a random sample of adult patients 48 hours to six weeks following hospital discharge. Three questions from the HCAHPS pertain specifically to the patient's perception of the physicians' communication skills.[9] There are three significant barriers that limit application of the HCAHPS results to individual physicians. The primary barrier is that the survey asks the patient to rate a single doctor as an individual,[10] whereas patients encounter multiple physicians throughout their hospitalization. A second barrier is that the HCAHPS includes three quite general questions regarding physician communication, which limits the ability to comprehensively assess physician performance.[8] A third barrier is that surveys are completed following hospital discharge introducing recall biases. And finally, response rates are typically low, further reducing reliability of the results.[8,11]

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In an effort to address the shortcomings of the HCAHPS, Torok et al. developed a physician specific survey, "Tool to Assess Inpatient Satisfaction with Care from Hospitalists" (TAISCH).[10] This 15-item questionnaire is designed to assess multiple areas of physician performance relevant to hospitalized patients such as concern, communication skills, and courtesy.[8] Internal validity for the instrument was supported by a confirmatory factor analysis and acceptable scale reliability ($\alpha = .88$).[10] It is considered by physicians to be more useful in performance improvement than HCAHPS because it provides detailed feedback and also identifies individual strengths and weaknesses based on patient perceptions of care.[8] The objective of this study was to evaluate an intervention designed to leverage the personalized feedback provided by the TAISCH survey to improve patient perceptions of their hospitalist physicians.

Methods

Setting and Participants

This was a pragmatic pre/post-study conducted at a large mid-western academic quaternary care and referral center from April 2015 through October 2016. Patients at least 19 years old who were admitted to either a teaching or non-teaching general internal medicine service were considered for inclusion. Those who did not speak English and those who were unable to participate due to cognitive, speech, or visual impairment were excluded. Patients being seen by the authors and those not seen on at least two consecutive days by the same physician were also excluded.

A trained research assistant, who was not part of the patient care team, administered the TAISCH survey during the index hospitalization Monday-Friday. At least two attempts were made to potential participants and, after obtaining verbal consent, patients were asked to identify their hospitalist physician by name and/or photograph. If the patient accurately identified the current hospitalist physician, the research assistant administered the 15-question TAISCH questionnaire via electronic tablet or paper based on patient preference. One additional item was added to the survey: If you came back to this hospital you would want the same physician again? Thus creating a 16 item "modified TAISCH survey."
Patients were also asked to provide qualitative physician feedback via two questions: Was there anything about this physician that particularly impressed you in a positive way? Was there anything that this physician could have improved upon? Finally, the patient was asked to report: How are you feeling today? The study was approved by the University of Nebraska Medical Center Institutional Review Board.

Intervention

After approximately eight months of survey collection, performance cards were created for each participating hospitalist physician using the results from the original 15-item TAISCH survey and the four additional questions added by the authors. The cards were sent via email and displayed the average rating for each question, an overall score, group scores for comparison, and patient comments (Figure 1).

Two interactive group reflection dinner sessions were held at a local restaurant and all physicians were invited to attend. Prior to the session, physicians were asked to review their performance cards and identify either a low-scoring item or a constructive patient comment for discussion. The sessions were moderated by the study investigators and involved open dialogue about group and individual results, as well as methods for improving performance. Participating hospitalists spent time in small groups with their colleagues discussing shortcomings identified by the TAISCH survey. At the conclusion of the session, each physician identified at least one way in which they would alter their practice.

Outcomes

The primary outcome for this study was the change in overall score on the modified TAISCH survey. Survey item responses were rated on a Likert scale with a "5" representing the most favorable response option. An overall score was calculated by taking the mean of the 16 survey items. Process measures of patient availability and survey completion data, including reasons for exclusion, were recorded during the pre-intervention phase of the study.

Statistical Analysis

Descriptive statistics were calculated to summarize study completion, patient characteristics, and hospitalist physician characteristics. A linear mixed effects model with random effects for physician and fixed effects for dinner attendance (yes/no) and survey timing (pre/post) was used to compare the summary TAISCH score and individual item responses between pre- and post-intervention periods. The interaction of survey timing and dinner attendance was included in the model. Model adjusted means and standard errors (SE) were used to describe the item responses and composite score.

Based on a published report, we assumed that the average overall patient satisfaction score would be 3.82 with a standard deviation of 0.24 on a 5-point Likert scale.[10] Similar interventions have shown variable relationships with patient satisfaction,[12-14] thus, we performed an a priori power analysis anticipating only a modest improvement in score. Sample sizes of 252 prior to the intervention and 252 after the intervention would achieve 80% power to detect a difference of 0.06 ($1/4^{th}$ of one

Figure 1. Sample Physician Performance Card

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Patient Experience Of Care Provided by Doctor

Dr. John Doe, MD

# Of Patient Rankings This Period	Composite MD Rating Score	Norm Composite Rating Score (ALL HM MDs Evaluated)
	88	89
	Based On Attributes/Actions Evaluated	Based On Attributes/Actions Evaluated

Specific Attributes/Actions Evaluated

Attribute/Action Evaluated	Rating Score Frequency						Mean Composite (100 = Best Possible)	
	5	4	3	2	1	DK/NA	Individual MD	All MDs Evaluated
MD showed interest in my views and opinions about my health	7	1	1	-	-	-	90	90
MD let me talk without interrupting	7	1	1	-	-	-	90	91
MD encouraged me to ask questions	5	2	1	-	-	1	85	90
MD was NOT in a rush when he/she was with me	6	2	-	1	-	-	84	88
MD kept me informed of the plans for my care	2	2	1	-	1	3	70	85
If I came back to this hospital I would want same MD again	3	3	-	1	-	2	80	86
MD asked permission to enter room and waited for an answer	5	2	-	-	-	2	91	88
MD sat down/was at eye level when he/she visited my bedside	6	2	-	-	1	-	83	91
MD discussed options with me and involved me in decision making	7	1	-	1	-	-	88	85
MD checked to be sure I understood everything	8	1	-	-	-	-	96	94
MD effectively prepared me for discharge	6	2	1	-	-	-	88	91
How much confidence do you have in MD to take good care of you?	7	1	-	-	-	1	95	91
How do you rate MD's fund of knowledge?	6	1	-	-	-	2	94	95
How do you rate MD's ability to communicate with you?	7	2	-	-	-	-	93	93
How do you rate MD's compassion, empathy, and concern for you?	6	2	-	-	-	1	94	91
How do you rate MD's skill in diagnosing and treating your medical condition?	7	2	-	-	-	-	93	93
If you came back to this hospital you would want the same hospitalist again.	7	-	-	-	1	1	88	90

Additional Patient Comments – Hospitalist Specific

He was very knowledgeable, very patient, handled problems very well, and explained why we could not do certain treatments.

I thought he was great, all things considered. It's never fun to be in the hospital. I felt comfortable asking him questions and he answered them all.

One of the best doctors I've ever spoken to. He was very open and took a lot of time with me, more than other doctors. Treatment options weren't discussed in an openly way. I accepted what he said to do.

standard deviation) between the expected means of 3.82 and 3.88 at a significance level (alpha) of 0.05 using a two-sided t-test.

Results

Survey Completion

Ninety-nine patients, 24% of the 418 who met initial inclusion criteria, completed the modified TAISCH survey during the pre-intervention phase. Of the 418 patients, 133 (32%) patients declined to participate, 127 (30%) were repeatedly absent from their room or otherwise unavailable, and 21 (5%) did not meet inclusion criteria after evaluation at the bedside. Thirty-eight of the remaining 137 patients (28%) could not correctly identify their current hospitalist physician via photograph or name and thus were not offered the survey.

Patient and Physician Characteristics Surveys were completed by 99 patients pre-intervention and 93 patients post-intervention, and evaluated 20 distinct hospitalist physicians. Table 1 displays characteristics of patients who completed surveys and of the hospitalist physicians caring for them. The majority of patients were white (77%) and older than 45 years (79.5%). The majority of the physicians were 40 years-old or younger (65%), and three-quarters served primarily on teaching services. All 20 hospitalist physicians received performance cards, thirteen attended one of the two group reflection dinners. Seven (35%) physicians received performance cards containing feedback from fewer than five patients.

Patient Satisfaction

Composite and individual item modified TAISCH results are displayed in Table 2. Mean scores for all 16 individual survey items were greater that 4 on the 5 point scale. Of all individual survey items, patients rated hospitalist physicians lowest on positioning themselves at eye level (mean 4.17, SE=0.10) and highest on checking to ensure understanding (mean 4.73, SE=0.04).

Physicians received significantly higher scores following the intervention on "checking for understanding" (4.63 vs. 4.82, p=0.026). In addition, patients reported feeling more confident that their hospitalist physician was taking good care of them following the intervention (4.45 vs. 4.64, p=0.048). No difference was found on any other individual TAISCH items or between the pre-intervention and post-intervention composite TAISCH scores (4.45 vs. 4.51, p=0.41).

Attending a group reflection session was not associated with a change in overall survey score (p for interaction=0.72). However, 11 of 13 (85%) hospitalist physicians attending the dinner reported feeling that the intervention was at least "somewhat influential" or even "extremely influential" when considering their personal practice.

The HCAHP Survey

Between April 2015 and October 2016, 985 HCAHP surveys were attributed to the 20 participating physicians (Table 3). Pre- and post-intervention "Top Box" scores were no different for any of the three individual doctor communication questions. The overall doctor communication domain, made up of all three questions combined, also showed no significant change following the intervention (p=0.18).

Discussion

Although the majority of hospitalist physicians participating in this study reported that the feedback provided by the modified TAISCH was somewhat or extremely influential, we were unable to demonstrate that the feedback and intervention altered patient satisfaction. This is the first study, to our knowledge, to evaluate the TAISCH survey as a tool to influence physician behavior in order to improve the patient experience.

We discovered significant barriers to TAISCH survey administration. The number of eligible patients was limited by the requirement that they be cared for by the same hospitalist physician for two consecutive days. Of patients who were eligible, nearly one-third declined to participate. Survey length (approximately 15-20 minutes), concern about confidentiality or that responses could negatively affect ongoing care, or acute illness itself may each have contributed to an unknown degree. Another major barrier was patient availability, as 30% of survey attempts failed because the patient was repeatedly unavailable. Similar to previous research that has found up to 1 in 5 patients could not identify their hospitalist physician, we found that failure to identify the hospitalist physician was a common barrier to survey completion.[15]

We believe that the TAISCH survey, while providing feedback that is more detailed, actionable, and individually attributable than the HCAHPS, may be insufficient in isolation to drive and sustain physician behavior change. The current body of literature suggests that a multi-faceted approach that includes elements of communication skills training, real-time feedback, and coaching is ideal.[14] Efforts that are sustained over time[12] and that address all clinical providers who influence patient satisfaction (i.e. residents, advanced practice providers and consulting physicians) have also met with success.[13] The TAISCH survey is resource-intense to administer, negatively impacting both the frequency and duration of survey efforts. It was designed specifically for hospitalist physicians and may not apply well to other clinical providers on the healthcare team. In addition, we found

Table 1. Patient and Physician Characteristics

	Pre-intervention	Post-intervention	Overall
Patient Characteristics	n = 99	n = 93	n = 192
Age, *n* (%)			
19-34	9 (9.0)	2 (2.1)	11 (5.6)
35-54	30 (30.2)	26 (27.8)	56 (29.1)
55-74	46 (46.4)	48 (51.5)	94 (48.9)
75+	7 (7.0)	12 (12.8)	19 (9.8)
Not provided	7 (7.0)	5 (5.3)	12 (6.2)
Sex, *n* (%)			
Female	54 (54.5)	49 (52.6)	103 (53.6)
Male	38 (38.3)	41 (44.0)	79 (41.1)
Not provided	7 (7.0)	3 (3.2)	10 (5.2)
Race, *n* (%)			
White	79 (79.7)	69 (74.1)	148 (77.0)
Black/African American	8 (8.0)	9 (9.6)	17 (8.8)
Hispanic	2 (2.0)	6 (6.4)	8 (4.1)
Other	3 (3.0)	6 (6.3)	9 (4.5)
Not provided	7 (7.0)	3 (3.2)	10 (5.2)
Physician Characteristics* (*n* = 20)			
Age, *n* (%)			
31-35			4 (20)
36-40			9 (45)
41-45			5 (25)
>45			2 (10)
Gender, *n* (%)			
Female			9 (45)
Male			
Years in current practice, *n* (%)			
<1			4 (20)
1-5			9 (45)
>5			7 (35)
Academic rank, *n* (%)			
Assistant Professor			14 (70)
Associate Professor			5 (25)
Professor			1 (5)
Primarily works on a teaching service, *n* (%)			15 (75)
Feedback method, *n* (%)			
Performance card only			7 (35)
Performance card + group reflection dinner			13 (65)

*Includes physicians who received a performance card with their TAISCH survey results.

relatively uniformly high pre-intervention TAISCH scores, casting some doubt on its ability to detect improvements. Our study has several limitations. Due to slow accrual, this study was halted before the target sample size was achieved, increasing the likelihood of type II error and limiting the amount of feedback that was available to physicians. A substantial proportion of patients either declined to participate or were excluded from participation, raising the possibility of selection bias. We conducted the intervention at a single academic hospital, limiting its generalizability. Residents provide much of the direct patient care on teaching services, which accounted for 75% of our patient sample, yet surveys were evaluating attending physicians. A single feedback episode, regardless of how well it was rated by physicians, may be a less powerful stimulus for behavior change than real-time feedback.[13,14] In addition, seven of the 20 participating hospitalist physicians did not attend a group reflection

Table 2. Mean Scores of Individual TAISCH Survey Items

Question	Overall Mean Score Apr 2015–Oct 2016 *n* = 192	Pre-intervention Mean Score Apr–Dec 2015 *n* = 99	Post-intervention Mean Score Feb–Oct 2016 *n* = 93	*p*-value
1. My provider showed interest in my views and opinions about my health.	4.55	4.62	4.48	0.27
2. My provider let me talk without interrupting.	4.61	4.61	4.59	0.87
3. My provider encouraged me to ask questions.	4.54	4.56	4.47	0.51
4. My provider was NOT in a rush when he/she was with me.	4.62	4.53	4.72	0.11
5. My provider kept me informed of the plans of my care.	4.51	4.54	4.51	0.81
6. If I came back to this hospital, I would want the same provider again.	4.48	4.52	4.56	0.58
7. My provider asked permission to enter the room and waited for an answer.	4.60	4.53	4.65	0.29
8. My provider positioned himself/herself at eye level or sat down when visiting my bedside.	4.17	4.18	4.12	0.71
9. My provider discussed options with me and involved me in decision-making.	4.54	4.50	4.58	0.46
10. My provider checked to be sure I understood everything.	4.73	4.63	4.82	0.03*****
12. How much confidence do you have in your provider to take good care of you?	4.73	4.45	4.64	0.05*****
13. Compared to all other physicians that you know, how do you rate your provider's fund of knowledge?	4.55	4.37	4.37	0.96
14. Compared to all other physicians that you know, how do you rate your provider's ability to communicate with you?	4.35	4.23	4.40	0.16
15. Compared to all other physicians that you know, how do you rate your provider's compassion, empathy, and concern for you?	4.36	4.29	4.47	0.12
16. Compared to all other physicians that you know, how do you rate you provider's skill in diagnosing and treating your medical conditions?	4.37	4.27	4.47	0.07
Overall Mean Score	4.48	4.45	4.51	0.41

*p-value ≤ 0.05

session and, therefore, did not receive the complete intervention. Finally, the pre/post study design we employed allows for the possibility that factors other than the intervention, including the overall experience gained by this closed cohort of hospitalists over the course of the 18-month study, may have contributed to the improvement we noted in the few individual TAISCH items.

Despite these limitations, the findings of this study add to a growing body of literature examining how best to (1) provide meaningful patient feedback to physicians practicing in an inpatient setting, and (2) improve physician performance and the patient's experience in a measurable way. Adjusting survey collection methods to increase patient comfort and availability, deploying questionnaires that offer specific and meaningful performance feedback, providing both coaching and real-time guidance to clinical providers, and involving all pertinent providers (i.e., advance practice providers, residents, and consulting physicians) are important

Table 3. HCAHPS Survey Top Box[1] Results for Hospitalist Physicians (*n*=20)

	Pre-intervention Apr – Dec 2015 *n* = 579	Post-intervention Feb – Oct 2016 *n* = 406	p-value
Patients responding that their doctors always treated them with courtesy and respect, n (%)	489 (85)	334 (82)	0.19
Total Responses[2]	*n* = 571	*n* = 403	
Patients responding that their doctors always listened carefully, n (%)	425 (74)	285 (71)	0.19
Total Responses[2]	*n* = 569	*n* = 400	
Patients responding that their doctors always explained things in a way they could understand, n (%)	408 (71)	267 (67)	0.09
Total Responses[2]	*n* = 572	*n* = 396	
Patients responding "always" for all 3 doctor-related questions, n (%)	360 (64)	237 (60)	0.25
Total Responses[2]	*n* = 565	*n* = 394	

[1]Top Box represents the proportion of patients responding "always."
[2]Total *n* denominators vary by question due to missing data.

considerations for future performance improvement and research efforts.

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