Impact of Hospitalist Communication-Skills Training on Patient-Satisfaction Scores

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BACKGROUND: Hospital patient-satisfaction scores now affect hospital payment, but little research addresses how hospitals or clinicians might improve performance.

OBJECTIVE: To assess the impact of a communication-skills training program on patient satisfaction with doctor communication and overall hospital care.

DESIGN: Preintervention vs postintervention comparison of patient-satisfaction scores. We designed a communication-skills training program for hospitalists consisting of three 90-minute sessions, based on a popular framework.

SETTING: Nonteaching hospitalist service in an urban academic hospital.

MEASUREMENTS: Doctor-communication items from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) and Press Ganey surveys, and HCAHPS overall hospital rating.

RESULTS: Overall, 61 (97%) of 63 hospitalists completed the first session, 44 (70%) completed the

second session, and 25 (40%) completed the third session of the program. Patient-satisfaction data was available for 278 patients during the preintervention period and 186 patients during the postintervention period. Two of the 3 HCAHPS and all 5 of the Press Ganey doctor-communication items were rated higher during the postintervention period, but no result was statistically significant. Similarly, the overall hospital rating was higher during the postintervention period, but the result was not significant. Analyses based on level of hospitalist participation did not show significant differences.

CONCLUSIONS: Patient satisfaction did not significantly improve after a communication-skills training program for hospitalists. Because of the small sample size, larger studies are needed to assess whether such a program might truly improve patient satisfaction. *Journal of Hospital Medicine* 2013;8:315–320. © 2013 Society of Hospital Medicine

Hospital settings present unique challenges to patient-clinician communication and collaboration. Patients frequently have multiple, active conditions. Interprofessional teams are large and care for multiple patients at the same time, and team membership is dynamic and dispersed. Moreover, physicians spend relatively little time with patients[1,2] and seldom receive training in communication skills after medical school.

The Agency for Healthcare Research and Quality (AHRQ) has developed the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey to assess hospitalized patients' experiences with care.[3–5] Results are publicly reported on the US Department of Health and Human Services Hospital Compare Web site[6] and now affect hospital payment through the Center for Medicare and

Medicaid Services Hospital Value-Based Purchasing Program.[7]

Despite this increased transparency and accountability for performance related to the patient experience, little research has been conducted on how hospitals or clinicians might improve performance. Although interventions to enhance physician communication skills have shown improvements in observed behaviors, few studies have assessed benefit from the patient's perspective and few interventions have been integrated into practice.[8] We sought to assess the impact of a communication-skills training program, based on a common framework used by hospitals, on patient satisfaction with doctor communication and overall hospital care.

METHODS
Setting and Study Design
The study was conducted at Northwestern Memorial Hospital (NMH), an 897-bed tertiary-care teaching hospital in Chicago, IL, and was approved by the institutional review board of Northwestern University. This study was a preintervention vs postintervention comparison of patient-satisfaction scores. The intervention was a communication-skills training program for all NMH hospitalists. We compared patient-satisfaction survey data for patients admitted to the

TABLE 1. AIDET® Elements, Explanations, and Examples

AIDET® Element	Explanation	Examples
Acknowledge	Use appropriate greeting, smile, and make eye contact.	Knock on patient's door. "Hello, may I come in now?"
	Respect privacy: Knock and ask for permission before entering. Use curtains/doors appropriately.	"Good morning. Is it a good time to talk?"
	Position yourself on the same level as the patient.	"Who do you have here with you today?"
	Do not ignore others in the room (visitors or colleagues).	
Introduce	Introduce yourself by name and role.	"My name is Dr. Smith and I am your hospitalist physician. I'll be taking care of you while you are in the hospital."
	Introduce any accompanying members of your team.	When on teaching service: "I'm the supervising physician" or "I'm the physician in charge of your care."
	Address patients by title and last name (eg, "Mrs. Smith") unless given permission to use first name.	
	Explain why you are there.	
	Do not assume patients remember your name or role.	
Duration	Provide specific information on when you will be available, or when you will be back.	"I'll be back between 2 and 3 PM, so if you think of any additional questions I can answer them then."
	For tests/procedures: Explain how long it will take. Provide a time range for when it will happen.	"In my experience, the test I am ordering for you will be done within the next 12 to 24 hours."
	Provide updates to the patient if the expected wait time has changed.	"I should have the results for this test when I see you tomorrow morning."
	Do not blame another department or staff for delays.	
Explanation	Explain your rationale for decisions.	"I have ordered this test because. . ."
	Use terms the patient can understand.	"The possible side effects of this medication include. . ."
	Explain next steps/summarize plan for the day.	"What questions do you have?"
	Confirm understanding using teach back.	"What are you most concerned about?"
	Assume patients have questions and/or concerns.	"I want to make sure you understood everything. Can you tell me in your own words what you will need to do once you are at home?"
	Do not use acronyms that patients may not understand (eg, "PRN," "IR," "ICU").	
Thank you	Thank the patient and/or family.	"I really appreciate you telling me about your symptoms. I know you told several people before."
	Ask if there is anything else you can do for the patient.	"Thank you for giving me the opportunity to care for you. What else can I do for you today?"
	Explain when you will be back and how the patient can reach you if needed.	"I'll see you again tomorrow morning. If you need me before then, just ask the nurse to page me."
	Do not appear rushed or distracted when ending your interaction.	

NOTE: **Abbreviations:** AIDET®, Acknowledge, Introduce, Duration, Explanation, and Thank You; ICU, intensive care unit; IR, interventional radiology; PRN, as needed.

nonteaching hospitalist service during the 26 weeks prior to the intervention with data for patients admitted to the same service during the 22 weeks afterward. Hospitalists on this service worked 7 consecutive days, usually followed by 7 days free from clinical duty. Hospitalists cared for approximately 10–14 patients per day without the assistance of resident physicians or midlevel providers (ie, physician assistants or nurse practitioners). Nighttime patient care was provided by in-house hospitalists (ie, nocturnists). A majority of nighttime shifts were staffed by physicians who worked for the group for a single year. As a result of a prior intervention, hospitalists' patients were localized to specific units, each overseen by a hospitalist-unit medical director.[9] We excluded all patients initially admitted to other services (eg, intensive care unit, surgical services) and patients discharged from other services.

Hospitalist Communication Skills Training Program

Northwestern Memorial Hospital implemented a communication-skills training program in 2009 intended to enhance patient experience and improve patient-satisfaction scores. All nonphysician staff were required to attend a 4-hour training session based on the AIDET® (Acknowledge, Introduce, Duration, Explanation, and Thank You) principles developed by the Studer Group.[10] The Studer Group is a well-known healthcare consulting firm that aims to assist healthcare organizations to improve clinical, operational, and financial outcomes. The acronym AIDET® provides a framework for communication-skills behaviors (Table 1).

We adapted the AIDET® framework and designed a communication-skills training program, specifically for physicians, to emphasize reflection on current communication behaviors, deliberate practice of enhanced communication skills, and feedback based on performance during simulated and real clinical encounters. These educational methods are consistent with recommended strategies to improve behavioral performance.[11] During the first session, we discussed measurement of patient satisfaction, introduced AIDET® principles, gave examples of specific behaviors for each principle, and had participants view 2 short videos displaying a range of communication skills followed by facilitated debriefing.[12] The second session included 3 simulation-based exercises. Participants rotated roles in the scenarios (eg, patient, family member, physician) and facilitated debriefing was co-led by a hospitalist leader (K.J.O.) and a patient-experience administrative leader (either T.D. or J.R.). The third session involved direct observation of participants' clinical encounters and immediate feedback. This coaching session was performed for an initial

group of 5 hospitalist-unit medical directors by the manager of patient experience (T.D.) and subsequently by these medical directors for the remaining participants in the program. Each of the 3 sessions lasted 90 minutes. Instructional materials are available from the authors upon request.

The communication-skills training program began in August 2011 and extended through January 2012. Participation was strongly encouraged but not mandatory. Sessions were offered multiple times to accommodate clinical schedules. One of the co-investigators took attendance at each session to assess participation rates.

Survey Instruments and Data

During the study period, NMH used a third-party vendor, Press Ganey Associates, Inc., to administer the HCAHPS survey to a random sample of 40% of hospitalized patients between 48 hours and 6 weeks after discharge. The HCAHPS survey has 27 total questions, including 3 questions assessing doctor communication as a domain.[3] In addition to the HCAHPS questions, the survey administered to NMH patients included questions developed by Press Ganey. Questions in the surveys used ordinal response scales. Specifically, response options for HCAHPS doctor-communication questions were "never," "sometimes," "usually," and "always." Response options for Press Ganey doctor-communication questions were "very poor," "poor," "fair," "good," and "very good." Patients provided an overall hospital rating in the HCAHPS survey using a 0–10 scale, with 0 = worst hospital possible and 10 = best hospital possible.

We defined the preintervention period as the 26 weeks prior to implementation of the communication-skills program (patients admitted on or between January 31, 2011, and July 31, 2011) and the postintervention period as the 22 weeks after implementation (patients admitted on or between January 31, 2012, and June 30, 2012). The postintervention period was 1 month shorter than the preintervention period in an effort to avoid confounding due to a number of new hospitalists starting in July 2012. We defined a discharge attending as "highly trained" if he/she attended all 3 sessions of the communication-skills training program. The discharge attending was designated as "no/low training" if he/she attended fewer than the full 3 sessions.

Data Analysis

Data were obtained from the Northwestern Medicine Enterprise Data Warehouse, a single, integrated database of all clinical and research data from all patients receiving treatment through Northwestern University healthcare affiliates. We used χ^2 and Student t tests to compare patient demographic characteristics preintervention vs postintervention. We used χ^2 tests to compare the percentage of patients giving top-box ratings

to each doctor-communication question (ie, "always" for HCAHPS and "very good" for Press Ganey) and giving an overall hospital rating of 9 or 10. We used top-box comparisons, rather than comparison of mean or median scores, because patient-satisfaction data are typically highly skewed toward favorable responses. This approach is consistent with prior HCAHPS research.[4,5] We calculated composite doctor-communication scores as the proportion of top-box responses across items in each survey (ie, HCAHPS and Press Ganey). We first compared all patients during the preintervention and postintervention period. We then identified patients for whom the discharge attending worked as a hospitalist at NMH during both the preintervention and postintervention periods and compared satisfaction for patients discharged by hospitalists who had no/low training and for patients discharged by hospitalists who were highly trained. We performed multivariate logistic regression, using intervention period as the predictor variable and top-box rating as the outcome variable for each doctor-communication question and for overall hospital rating of 9 or 10. Covariates included patient age, sex, race, payer, self-reported education level, and self-reported health status. Models accounted for clustering of patients within discharge physicians. Similarly, we conducted multivariate logistic regression, using discharge attending category as the predictor variable (no/low training vs highly trained). The various comparisons described were intended to mimic "intention to treat" and "treatment received" analyses in light of incomplete participation in the communication-skills program. All analyses were conducted using Stata version 11.2 (StataCorp, College Station, TX).

RESULTS

Overall, 61 (97%) of 63 hospitalists completed the first session, 44 (70%) completed the second session, and 25 (40%) completed the third session of program. Patient-satisfaction data were available for 278 patients during the preintervention period and 186 patients during the postintervention period. Patient demographic characteristics were similar for the 2 periods (Table 2).

Patient Satisfaction With Hospitalist Communication

The HCAHPS and Press Ganey doctor communication domain scores were not significantly different between the preintervention and postintervention periods (75.8 vs 79.2, $P = 0.42$ and 61.4 vs 65.9, $P = 0.39$). Two of the 3 HCAHPS items assessing doctor communication were rated higher during the postintervention period, but no result was statistically significant (Table 3). Similarly, all 5 of the Press Ganey items assessing doctor communication were rated higher during the postintervention period, but no result was statistically

TABLE 2. Patient Characteristics

Characteristic	Preintervention (n = 278)	Postintervention (n = 186)	P Value
Mean age, y (SD)	62.8 (17.0)	61.6 (17.6)	0.45
Female, no. (%)	155 (55.8)	114 (61.3)	0.24
Nonwhite race, no. (%)	87 (32.2)	53 (29.1)	0.48
Highest education completed, no. (%)			
Did not complete high school	12 (4.6)	6 (3.3)	0.45
High school	110 (41.7)	81 (44.0)	
4-year college	50 (18.9)	43 (23.4)	
Advanced degree	92 (34.9)	54 (29.4)	
Payer, no. (%)			
Medicare	137 (49.3)	89 (47.9)	0.83
Private	113 (40.7)	73 (39.3)	
Medicaid	13 (4.7)	11 (5.9)	
Self-pay/other	15 (5.4)	13 (7.0)	
Self-reported health status, no. (%)			
Poor	19 (7.1)	18 (9.8)	0.41
Fair	53 (19.7)	43 (23.4)	
Good	89 (33.1)	57 (31.0)	
Very good	89 (33.1)	49 (26.6)	
Excellent	19 (7.1)	17 (9.2)	

NOTE: Abbreviations: SD, standard deviation.

significant. The HCAHPS overall rating of hospital care was also not significantly different between the preintervention and postintervention period. Results were similar in multivariate analyses, with no items showing statistically significant differences between the preintervention and postintervention periods.

Pre-post comparisons based on level of hospitalist participation in the training program are shown in Table 4. For patients discharged by no/low-training hospitalists, 4 of the 8 total items assessing doctor communication were rated higher during the postintervention period, and 4 were rated lower, but no result was statistically significant. For patients discharged by highly trained hospitalists, all 8 items assessing doctor communication were rated higher

during the postintervention period, but no result was statistically significant. Multivariate analyses were similar, with no items showing statistically significant differences between the preintervention and postintervention periods for either group.

DISCUSSION

We found no significant improvement in patient satisfaction with doctor communication or overall rating of hospital care after implementation of a communication-skills training program for hospitalists. There are several potential explanations for our results. First, though we used sound educational methods and attempted to replicate common clinical scenarios during simulation exercises, our program may not have resulted in improved communication behaviors during actual clinical care. We attempted to balance instructional methods that would result in behavioral change with a feasible investment of time and effort on the part of our learners (ie, practicing hospitalists). It is possible that additional time, feedback, and practice of communication skills would be necessary to change behaviors in the clinical setting. However, prior communication-skills interventions have similarly struggled to show an impact on patient satisfaction.[13,14] Second, we had incomplete participation in the program, with only 40% of hospitalists completing all 3 planned sessions. We encouraged all hospitalists, regardless of job type, to participate in the program. Participation rates were lower for 1-year hospitalists compared with career hospitalists. The results of our analyses based on level of hospitalist participation in the training program, although not achieving statistical significance, suggest a greater effect of the program with higher degrees of participation.

Most important, the study was likely underpowered to detect a statistically significant difference in satisfaction results. Leaders were committed to providing

TABLE 3. Preintervention vs Postintervention Comparison of Top-Box Patient-Satisfaction Ratings

	Unadjusted Analysis*			Adjusted Analysis	
	Preintervention, No. (%) [n = 270–277]	Postintervention, No. (%) [n = 183–186]	P Value	OR (95% CI)	P Value
HCAHPS doctor-communication domain					
How often did doctors treat you with courtesy and respect?	224 (83)	160 (86)	0.31	1.23 (0.81-2.44)	0.22
How often did doctors listen carefully to you?	205 (75)	145 (78)	0.52	1.22 (0.74-2.04)	0.42
How often did doctors explain things in a way you could understand?	203 (75)	137 (74)	0.84	0.98 (0.59-1.64)	0.94
Press Ganey physician-communication domain					
Skill of physician	189 (68)	137 (74)	0.19	1.38 (0.82-2.31)	0.22
Physician's concern for your questions and worries	157 (57)	117 (64)	0.14	1.30 (0.79-2.12)	0.30
How well physician kept you informed	158 (58)	114 (62)	0.36	1.15 (0.78-1.72)	0.71
Time physician spent with you	140 (51)	101 (54)	0.43	1.12 (0.66-1.89)	0.67
Friendliness/courtesy of physician	198 (71)	136 (74)	0.57	1.20 (0.74-1.94)	0.46
HCAHPS global ratings					
Overall rating of hospital	189 (70) [n = 270]	137 (74) [n = 186]	0.40	1.33 (0.82-2.17)	0.24

NOTE: Abbreviations: CI, confidence interval; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; OR, odds ratio.

*Data represent the number and percentage of respondents giving highest rating (top box) for each question; denominators vary slightly due to missing data.

TABLE 4. Comparison of Top-Box Patient-Satisfaction Ratings by Discharge Hospitalist Participation

	No/Low Training					Highly Trained				
	Unadjusted Analysis*			Adjusted Analysis		Unadjusted Analysis*			Adjusted Analysis	
	Preintervention, No. (%) [n = 151–156]	Postintervention, No. (%) [n = 67–70]	P Value	OR (95% CI)	P Value	Preintervention, No. (%) [n = 119–122]	Postintervention, No. (%) [n = 115–116]	P Value	OR (95% CI)	P Value
HCAHPS doctor-communication domain										
How often did doctors treat you with courtesy and respect?	125 (83)	61 (88)	0.28	1.79 (0.82-3.89)	0.14	99 (83)	99 (85)	0.65	1.33 (0.62-2.91)	0.46
How often did doctors listen carefully to you?	116 (77)	53 (76)	0.86	1.08 (0.49-2.38)	0.19	89 (74)	92 (79)	0.30	1.43 (0.76-2.69)	0.27
How often did doctors explain things in a way you could understand?	115 (76)	47 (68)	0.24	0.59 (0.27-1.28)	0.18	88 (74)	90 (78)	0.52	1.31 (0.68-2.50)	0.42
Press Ganey physician-communication domain										
Skill of physician	110 (71)	52 (74)	0.56	1.32 (0.78-2.22)	0.31	79 (65)	85 (73)	0.16	1.45 (0.65-3.27)	0.37
Physician's concern for your questions and worries	92 (60)	41 (61)	0.88	1.00 (0.59-1.77)	0.99	65 (53)	76 (66)	0.06	1.71 (0.81-3.60)	0.16
How well physician kept you informed	89 (59)	42 (61)	0.75	1.16 (0.64-2.08)	0.62	69 (57)	72 (63)	0.34	1.29 (0.75-2.20)	0.35
Time physician spent with you	83 (54)	37 (53)	0.92	0.87 (0.47-1.61)	0.65	57 (47)	64 (55)	0.19	1.44 (0.64-3.21)	0.38
Friendliness/courtesy of physician	116 (75)	45 (66)	0.18	0.72 (0.37-1.38)	0.32	82 (67)	91 (78)	0.05	1.89 (0.97-3.68)	0.60
HCAHPS global ratings										
Overall rating of hospital	109 (73)	53 (75)	0.63	1.37 (0.67-2.81)	0.39	86 (71)	90 (78)	0.21	1.60 (0.73-3.53)	0.24

NOTE: Abbreviations: CI, confidence interval; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; OR, odds ratio.

*Data represent the number and percentage of respondents giving highest rating (top box) for each question; denominators vary slightly due to missing data.

communication-skills training throughout our organization. We did not know the magnitude of potential improvement in satisfaction scores that might arise from our efforts, and therefore we did not conduct power calculations before designing and implementing the training program. Our HCAHPS composite doctor-communication domain performance was 76% during the preintervention period and 79% during the postintervention period. Assuming an absolute 3% improvement is indeed possible, we would have needed >3000 patients in each period to have 80% power to detect a significant difference. Similarly, we would have needed >2000 patients during each period to have 80% power to detect an absolute 4% improvement in global rating of hospital care.

In an attempt to discern whether our favorable results were due to secular trends, we conducted post hoc analyses of HCAHPS nurse-communication and hospital-environment domains for the preintervention vs postintervention periods. Two of the 3 nurse-communication items were rated lower during the postintervention period, but no result was statistically significant. Both hospital-environment domain items were rated lower during the postintervention period, and 1 result was statistically significant (quiet at night). This post hoc evaluation lends additional support to the potential benefit of the communication-skills training program.

The findings from this study represent an important issue for leaders attempting to improve quality performance within their organizations. What level of proof is needed before investing time and effort in implementing an intervention? With mounting pressure to improve performance, leaders are often left to make informed decisions based on data that fall short of scientifically rigorous evidence. Importantly, an increase in composite doctor-communication ratings from 76% to 79% would translate into an improvement from the 25th percentile to 50th-percentile performance in the fiscal-year 2011 Press Ganey University Healthcare Consortium benchmark comparison (based on surveys received from September 1, 2010, to August 31, 2011).[15]

Our study has several limitations. First, we assessed an intervention on a single service in a single hospital. Generalizability may be limited, as hospital medicine groups, hospitals, and the patients they serve vary. Second, our intervention was based on a framework (ie, AIDET®) that has face validity but has not undergone extensive study to confirm that the underlying constructs, and the behaviors related to them, are tightly linked to patient satisfaction. Third, as previously mentioned, we were likely underpowered to detect a significant improvement in satisfaction resulting from our intervention. Incomplete participation in the training program may have also limited the effect of our intervention. Finally, our comparisons by hospitalist level of participation were based on the

discharging physician. Attribution of a patient response to a single physician is problematic because many patients encounter more than 1 hospitalist and 1 or more specialist physicians during their stay.

CONCLUSION

In summary, we found improvements in patient satisfaction with doctor communication, which were not statistically significant, after implementation of a communication-skills training program for hospitalists. Larger studies are needed to assess whether a communication-skills training program can truly improve patient satisfaction with doctor communication and overall hospital care.

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