Published in final edited form as:

Jt Comm J Qual Patient Saf. 2009 December ; 35(12): 613–619.

Improving Inpatients' Identification of Their Doctors: Use of FACE™ Cards

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Abstract

Background—Improving patients' ability to identify their inpatient physicians and understand their roles is vital to safe patient care. We designed picture cards to facilitate physician introductions. We assessed the effect of Feedback Care and Evaluation (FACE™) cards on patient: (1) ability to correctly identify their inpatient physicians, and (2) understanding of their roles.

Methods—In October 2006, team members introduced themselves with FACE™ cards, which included a photo and an explanation of their roles. During an inpatient interview research assistants asked patients to name their inpatient physicians and trainees, and rate their understanding of their physicians' roles.

Results—1686 (80%) patients in the baseline period and 857 (67%) in the intervention period participated in the evaluation. With the FACE™ intervention, patients were significantly more likely to correctly identify at least one inpatient physician (attending, resident, or intern) [baseline 12.5% vs. intervention 21.1%; $p < 0.001$]. Of the 181 patients who were able to correctly identify at least one inpatient physician in the intervention period, research assistants noted that 59% ($n = 107$) had FACE™ cards visible in their rooms. Surprisingly, fewer patients rated their understanding of their physicians' roles as excellent or very good in the intervention period (45.6%) compared to the baseline period (55.3%) ($p < 0.001$).

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Conflict of Interest: There are no potential conflicts of interest.

Conclusions—Although FACE™ cards improved patients' ability to identify their inpatient physicians, many patients still cannot identify their inpatient doctors. The FACE™ cards also served to highlight patients' misunderstanding of their physicians' roles.

Keywords

identification; physician communication; role understanding

Introduction

Patients are often cared for by a team of physicians in the inpatient setting. In teaching hospitals, patients face the additional challenge of learning the names and roles of medical trainees such as medical students, interns, and residents.

Although statement of physicians' names and roles are considered to be an important part of physicians' introductions,^{1, 2} patients report that doctors often fail to introduce themselves and that they do not understand their doctors' role on their care team.^{3,4} With increasing numbers of hospitalists, it is likely that inpatients are cared for by physicians that they do not know,⁵ making the introduction even more important in establishing a doctor-patient relationship.

Patients who cannot identify their inpatient physicians may be more likely to suffer harm and may be unable to obtain answers to questions about their recent hospitalization after discharge.⁶ While some patients may contact primary care physicians (PCP) for these questions, many patients do not have a medical home. Furthermore, because communication with PCPs regarding a patient's hospitalization is suboptimal,⁷ PCPs are not often aware of pending tests for recently discharged patients.⁸ Due to poor clinician communication during care transitions, empowering patients is recommended to ensure patient safety during these transitions.

In fact, several national organizations advocate that patients should take specific measures to stay informed about who is involved in their care, and what the responsibility level of each caregiver is.⁹ For example, the 2008 Joint Commission National Patient Safety Goal for hospitals that “encourages patients' active involvement in their own care as a patient safety strategy.”¹⁰ A new Transitions of Care Policy Statement endorsed by six medical societies recommends that patients are active in their care transition and that “At every point along the transition the patient and/or family/caregivers need to know who is responsible for their care.”¹¹ More specifically, the Lewis Blackman Hospital Patient Safety Act, enacted in South Carolina, mandates that all hospital personnel wear appropriate name tags that identify their name and their role to patients, and that patients are provided with education on how to immediately contact their attending physician.¹²

Therefore, interventions to improve physician introductions to their hospitalized patients and patients' corresponding ability to identify their inpatient physicians are important. One small study demonstrated that patients' ability to identify their inpatient physicians improves if photographs are in their rooms.¹³ Building on this prior work, we designed baseball card-sized cards to be used by physicians to facilitate introductions. Feedback Care and Evaluation (FACE™) cards contained a picture, name, and role of each clinician. This study aims to assess the impact of the FACE™ card intervention on patient ability to identify their inpatient physicians and their corresponding roles.

Methods

Study Design

A longitudinal survey was conducted using a prospective cohort of adult patients admitted to the University of Chicago's inpatient general medicine service from July 2005- June 2007 (Figure 1). After obtaining written consent, trained research assistants interviewed inpatients, with over 75% of patients interviewed by hospital day two and over 99% interviewed by hospital day four.^{14, 15} Patients who were admitted to the non-general medicine floors, non-teaching services, had impaired cognition (score of less than 17 out of 22 on a modified mini-mental status exam),¹⁶ or could not complete the inpatient interview were excluded. Although data was collected from available proxies for patients who were cognitively impaired, we chose to exclude these responses for several reasons. First, the difficulty finding an available proxy resulted in a lower response rate for proxies and, second, the variability with which proxies were involved and present during a patient day made this data hard to interpret. The University of Chicago Institutional Review Board approved this study.

Data Collection

Questions for this study were incorporated into an ongoing study that assessed quality and cost for hospitalized general medical patients.¹⁴ The inpatient questionnaire consisted of 39 questions that assessed mental status,¹⁶ demographics, and medical history. The last section asked patients to rate the “understanding of the roles of the physicians and trainees on your general medicine team” using a Likert scale ranging from 5 (excellent understanding) to 1 (poor understanding). Patients were then asked to “name the physicians and trainees on your general medicine team and their roles.” Up to 8 responses were transcribed as spoken. Patients could use FACE™ cards to answer questions if available. Research assistants also noted whether FACE™ cards were visible in the room.

The names and roles of the physicians listed by patients were confirmed using hospital directories and administrative schedules. Physicians and trainees named were categorized by specialty (e.g. specialist, PCP) and by level of training (e.g. resident, intern, medical student). Non-physician caregivers were characterized as either nurses or other specialties (e.g. nursing service assistant, physical therapist). To determine if patients correctly identified their inpatient physicians, research assistants abstracted the names of the physicians listed in the patient chart.

Intervention

Starting October 1, 2006, each member of the care team (attending, resident, intern, and medical student) was given FACE™ cards to distribute to patients at bedside rounds (Figure 2).¹⁷ The team was instructed to put cards in plastic cardholders that were placed in the room by environmental services when a room was cleaned for a new patient. At the end of the rotation, the new team member could place his/her card in the same card slot as the physician that they were replacing.

Data Analysis

A univariate chi-square test was performed comparing patients' ability to correctly identify at least one general medicine physician during the baseline and intervention periods. Multivariate logistic regression was performed to test patients' ability to identify at least one general medicine physician with the FACE™ card intervention adjusting for patient factors (age, gender, marital status, income, and education level), hospital stay characteristics (length of stay, admission by a night float team,¹⁸⁻²¹ whether the attending switched during the admission,²² and whether the patient was transferred), PCP status (whether the patient

had a PCP and whether patient had a University of Chicago PCP), and time (month of admission, academic year). The percentage of patients that had FACE™ cards documented in the room by research assistants was also assessed.

To assess patients' understanding of their inpatient physicians' roles, a chi-squared test was performed to compare the proportion of patients who rated their understanding of their caregivers' roles as excellent or very good during the baseline period and intervention periods. Multivariate logistic regression was then performed, controlling for covariates described above, to assess if understanding of roles had improved with FACE™ cards. All statistical tests were performed using Stata 9.0 (College Station, TX) with a statistical significance of $p < 0.05$.

Results

2100 patients were admitted and eligible for this study in the baseline period (July 1, 2005 to Sept 30, 2006), and 1278 in the FACE™ card intervention period (Oct 1, 2006 to June 1, 2007). Of these, 1686 (80%) completed the interview in the baseline period and 857 (67%) completed the interview in the intervention period. (Figure 1). While mean age differed between the two groups, the magnitude of this difference was only 2 years. There was no significant difference in the proportion of patients greater than 65 years of age. Likewise, few patients reported Hispanic ethnicity (2.4% baseline vs. 4.8% intervention). Fewer patients were admitted by a night float team in the intervention period (20.8% baseline vs. 11.2% intervention), which is likely due to an expansion of the non-teaching hospitalist service in the intervention year which reduced the number of night float admissions to the teaching service. Fewer patients had their attending switch during the intervention period, likely due to more attendings working in one month blocks rather than two week blocks. These characteristics were incorporated into multivariate analyses (Table 1).

In the baseline period, 26.9% of participants were able to identify at least one person, while over 1.6 times as many participants (43.5%) were able to identify at least one person in the intervention period ($p < 0.001$). There was no statistical difference in the percentage of inpatient attendings, residents, interns, medical students, primary care physicians, and people identified between the baseline period and the intervention period. A greater percentage of nurses and other specialists (i.e. nurse assistants, podiatrists, etc.) were identified during the intervention (29.1% and 14.5% respectively) compared to the baseline period (7.5% and 0.7% respectively). Fewer specialists were identified in the intervention period (25.2%) compared to the baseline period (34.6%) (Table 2).

With the FACE™ intervention, patients were significantly more likely to correctly identify at least one inpatient physician (attending, resident, or intern) [baseline 12.5% vs. intervention 21.1%; $p < 0.001$] (Table 3). These differences remained in multivariate analyses after controlling for all of the characteristics displayed in Table 1. Of the 181 patients who were able to correctly identify at least one inpatient physician in the intervention period, research assistants noted that 59% ($n=107$) had FACE™ cards visible in their rooms. Surprisingly, fewer patients rated their understanding of their physicians' roles as excellent or very good in the intervention period (45.6%) compared to the baseline period (55.3%) ($p < 0.001$).

Discussion

After the FACE™ card intervention, hospitalized patients were significantly more likely to correctly identify their inpatient physicians. However, with FACE™ cards, patients were less likely to report understanding the roles of their inpatient physicians.

It is important to consider the possible mechanisms for these findings. It is possible that FACE™ cards may have served as a reminder to physicians to introduce themselves to their patients. In addition to a heightened awareness of physicians' introductions, all staff may have responded to the FACE™ intervention by making a more concerted effort at introductions, which may in part explain why more nurses and other specialists were identified in the intervention period. Nurses had been taught about the FACE™ cards and encouraged to emphasize their own introductions. Nurses often wrote their names on the white board next to where FACE™ cards were posted. Patients may have been more likely to inquire about their nurses' names after receiving FACE™ cards.

It is also important to understand why the FACE™ card intervention did not work as well as it could have. In spite of the intervention, the majority of patients could not correctly identify an inpatient physician. Possible reasons for this are that patients did not have FACE™ cards, either because doctors did not distribute them, or because plastic card holders were not in patients' rooms. It is possible that certain patient factors, such as low health literacy, poor recall, and acute illness, impair patients' ability to correctly identify their doctors even with this intervention.

Although the study has ended, certain attending champions continue to use FACE™ cards. Card holders are no longer provided since many physicians stated that the card holders were not present in the room. FACE™ cards were also modified to have the picture on one side and the role of the physician on the other. Residents and attendings receive FACE™ cards at the beginning of the academic year to use on their own volition. Embedding photos in business cards is another way to implement this project, which has been done at MacNeal Hospital in Berwyn, IL and Good Samaritan Hospital in Phoenix, AZ after learning about FACE™ cards.^{23, 24}

Although FACE™ cards may have helped patients correctly identify their inpatient physicians, fewer patients reported understanding their physicians' roles with the intervention. It is possible that FACE™ cards highlighted the degree to which patients don't understand their physicians' roles. In other words, by introducing more team members, FACE™ cards exposed deficiencies in patients' prior understanding of their physicians' roles. It is also possible that the roles as listed on the cards were too confusing for patients to understand.

One limitation of this study is that it is not a randomized controlled trial, making it possible that some type of secular trend may have been concurrent with the intervention. As a single-site study with residents and attendings resorting and rotating on different teams every month, randomization would be challenging. Another limitation of this study is that fewer patients consented to participate in the intervention. This appears to be due to seasonal effect with higher consent rates in summer months, which were not included in the FACE intervention period. Further, it is possible that errors during data recoding or cleaning occurred. Finally, these results may not be generalizable to other practices.

Conclusion

With the FACE™ card intervention, patients were more likely to correctly identify their inpatient physicians, but less likely to report having a good understanding of the roles of their inpatient physicians.

Acknowledgments

This study was supported by funding from the Graduate Medical Education Committee from the University of Chicago Medical Center. We also acknowledge funding from the Hartford Foundation Health Outcomes Research.

Scholars Award, the Agency for Healthcare Research and Quality Centers for Education and Research on Therapeutics (1U18HS016967-01), the Donald W. Reynolds Foundation, and the National Institute of General Medical Sciences Effectiveness of TEACH Research grant (1 RO1 GM075292-01). Prior presentations on this data include the Society of Hospital Medicine Conference in San Diego, CA on April 2008.

We would like to thank the following people: Jeanne Farnan, MD, Kathleen Santos, MS, Hui Tang, MS, Juned Siddique, PhD, Korry Schwanz, BA, Kim Alvarez, BA, Stan Robinson from Environmental Services, Denise Vasquez, RN, and Jen Higa, BA. This study was supported by funding from the Graduate Medical Education Committee from the University of Chicago Medical Center.

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Figure 1. Flow of patients through study

University of Chicago Hospital

General Medicine Service

Dr. John Doe
Medical Intern

The **ATTENDING** is a physician who has completed medical specialty training. The Attending is responsible for supervising your Resident and Intern and for the overall direction of your care while in the hospital.

(PLACE ATTENDING PICTURE CARD
IN SLOT TO THE RIGHT)

The **MEDICAL RESIDENT** is a physician in the later years of medical specialty training. The Resident's role is to supervise your Intern in meeting your care needs.

(PLACE MEDICAL RESIDENT PICTURE
CARD IN SLOT BELOW)

Figure 2. Sample FACE card*

*Medical intern listed on front of card is an example of role; other roles, with descriptions, are shown above

Table 1
Demographics of sample

Characteristic	Baseline Period * n ₁ =1686 [†]	FACE [™] Intervention Period n ₂ =857	P-value [‡]
Patient Characteristics			
Age [§]	56 (55, 57)	54 (52, 55)	0.014
Age ≥ 65	575 (34.3%)	267 (31.3%)	0.127
Females	1,019 (60.6%)	511 (59.6%)	0.642
African American Race	1,275 (75.6%)	659 (76.9%)	0.477
Hispanic Ethnicity (n ₁ =1586, n ₂ =816)	38 (2.4%)	39 (4.8%)	0.002
Married or living as married (n ₁ =1665, n ₂ =846)	470 (28.2%)	241 (28.5%)	0.892
Education (n ₁ =1666, n ₂ =849)			
High school or less	869 (52.2%)	438 (51.6%)	0.455
Some college or college graduate	668 (40.1%)	330 (38.9%)	
More than college	102 (6.1%)	66 (7.8%)	
Not sure or do not know	27 (1.6%)	15 (1.8%)	
Household income (n ₁ =1660, n ₂ =851)			
\$10,000 or less	271 (16.3%)	110 (12.9%)	0.113
\$10,001 to \$50,000	358 (21.6%)	185 (21.7%)	
\$50,001 to \$100,000	128 (7.7%)	60 (7.1%)	
Greater than \$100,001	62 (3.7%)	29 (3.4%)	
Does not know	491 (29.6%)	292 (34.3%)	
Refused	350 (21.1%)	175 (20.6%)	
Hospital Stay Characteristics			
Length of stay (in days)	5.08 (4.77, 5.38)	4.66 (4.33, 4.99)	0.094
Admitted by float team	351 (20.8%)	96 (11.2%)	<0.001
Transferred from another service	101 (6.0%)	54 (6.3%)	0.757
Attending switched during hospital stay	160 (9.5%)	48 (5.6%)	0.001
Outpatient Care Characteristics			
Has a primary care physician	1326 (78.7%)	651 (76.0%)	0.124
Primary care physician at U of C	765 (45.4%)	378 (44.1%)	0.544

* The pre-intervention time period (baseline) was defined as July 1, 2005 – September 30, 2006 and the Feedback Care and Evaluation (FACE™) intervention time period was defined as from October 1, 2006 – June 1, 2007

[†] n₁= total n value for FACE™ intervention time period for that category and n₂= total n value for baseline time period for that category; n-values fluctuate due to missing data

[‡] All comparison tests performed were chi-squared, except for age and length of stay which were t-tests on means

[§] Age and length of stay expressed as mean (95% CI), all other results are expressed as n (%)

Table 2
Differences in who was identified between baseline and FACE™ card intervention periods*

	Baseline Period N ₁ =1686 [‡]	Intervention Period n ₂ =857	P-value
Total number of people who identified at least one person	454 (26.9%)	373 (43.5%)	<0.001
Who was identified			
Attending	119 (26.2%)	112 (30.0%)	0.224
Resident	91 (20.0%)	85 (22.8%)	0.337
Intern	131 (28.9%)	89 (23.9%)	0.106
Medical student	18 (4.0%)	24 (6.4%)	0.108
Nurse	34 (7.5%)	109 (29.1%)	<0.001
Specialist	157 (34.6%)	94 (25.2%)	0.004
Primary care physician	32 (7.1%)	19 (5.1%)	0.245
Other specialty [‡]	3 (0.7%)	54 (14.5%)	<0.001
Unknown	164 (36.1%)	112 (30.0%)	0.064

* All comparisons were performed using chi-squared analysis

[‡] n₁= total n value for FACE™ intervention time period for that category and n₂= total n value for baseline time period for that category

[‡] Names listed were categorized as “other specialty” if the roles listed were not doctors, medical students, or nurses (e.g. if the patient listed nurse's assistant or podiatrist as the role)

Table 3
Effect of FACE Cards on ability to correctly identify inpatient physicians and understand roles on team

	Baseline Period N ₁ =1686 [†]	Intervention Period n ₂ =857	P-value
Correctly identified at least one inpatient physician*			
Unadjusted [‡]	210 (12.5%)	181 (21.1%)	<0.001
Adjusted [§]	268 (11.6%)	283 (28.3%)	0.005
Very good or excellent understanding of roles of the caregivers on their team**			
Unadjusted [‡]	933 (55.3%)	391 (45.6%)	<0.001
Adjusted [§]	964 (57.2%)	367 (42.8%)	0.002

* refers to whether or not patients could correctly identify at least one inpatient intern, resident, or attending

[†] All unadjusted comparisons were performed using chi-squared analysis

[‡] n₁= total n value for FACE™ intervention time period for that category and n₂= total n value for baseline time period for that category

[§] Adjusted estimate denotes the predicted values from the multivariate logistic regression that included patients admitted to all floors, adjusted for month of admission, academic year, age, gender, race, Hispanic ethnicity, education level, marital status, length of stay, admission by a float team, whether or not the patient has a primary care physician at all, whether or not the patient has a primary care physician at the University of Chicago, whether the attending switched during admission, and whether or not the patient was transferred.

** Patients had the option of rating their understanding as excellent, very good, good, fair, poor, or don't know