RAY FIRM

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Project Title: Bridging the Gap: Improving Inpatient to Outpatient Communication for Hospitalized Patients

Background/Aim:

There has been a wave of change over the past 10 years with respect to the care of the patient in the hospital and care of the patient in the office. Traditionally, a primary care outpatient doctor admitted patients to the hospital when they were ill and followed up with them in his or her office to complete a seamless transition. The physician was able to address all follow up issues and medication changes. Due to multiple factors in the medical field, this type of practice has fallen to the wayside and has been replaced with two separate internal medicine practices: primary care outpatient care and the inpatient hospital-based care. While this change creates the advantages of improved care with a narrowed focus, it has also created problems when transferring information between inpatient and outpatient settings at hospital admit or discharge. It is now common to have multiple communication pitfalls when transitioning from an inpatient hospital stay to an outpatient clinic follow up [1]. These pitfalls have been shown to affect patient care and are now a growing concern for improving patient safety.

As stated above, poor communication and handoff at discharge has been shown to affect patient safety. After discharge from the hospital, 19 to23% of patients suffer from an adverse event most commonly related to a medication or complex discharge instructions [4]. In fact, a recent study showed that 1 in 5 patients will return to the hospital within 30 days after discharge. Of the adverse drug events, it thought that half of them are preventable and mostly related to breakdown in communication between hospital and home [2]. Nearly half experience at least one medical error related to test follow up, diagnostic workup, or medication error [3]. In 2007, Kripalani *et al* showed that hospitalists and primary care physicians rarely had direct communication regarding patients and that the discharge summaries for hospital visits were only available about 12 to 34 % of the time at follow up appointments. At Tulane hospital, previous quality improvement project data available from Dr. Menard showed that among community and Tulane physicians surveyed only 28% felt that the communication they received when a patient was hospitalized was good or excellent and 56% were dissatisfied with the communication [5]. The aim of this project was to improve communication between inpatient hospitalist teams and

outpatient providers through email notification at time of admission. Ultimately, we feel that this can improve provider satisfaction and improve patient follow up.

Metric: Our metric was a survey conducted both before and after our intervention looking at experiences of outpatient providers including both primary care providers and subspecialists with regards to communication from inpatient providers about their patients' hospitalizations. Key elements of the survey included the frequency of notifications received by outpatient providers from inpatient providers about hospitalization, how often given information about how to contact the inpatient team, frequency of visiting patients in the hospital when hospitalized, level of satisfaction with current system for communication, belief about communication decreasing hospitalizations, and preferred method of communication. The list of physicians surveyed was provided through the Department of Medicine office email listserv list. Both primary care physicians and specialists were surveyed.

Pre-Intervention Metric Values:

	Never	Sometimes	Most	All
How often are you aware of hospitalization? (n=36)	4 (11.1%)	22 (61.1%)	9 (25%)	1 (2.8%)
How often are you given contact information of admitting team? (n=36)	2 (5.6%)	26 (72.2%)	3 (8.3%)	5 (13.9%)
How often do you visit hospitalized patients? (n=36)	4 (11.1%)	19 (52.8%)	10 (27.8%)	3 (8.3%)
How satisfied are you with the current system in place for communication?	**Completely dissatisfied**	**Somewhat dissatisfied**	**Somewhat satisfied**	**Very Satisfied**
(n=36)	10 (27.8%)	21 (58.3%)	4 (11.1%)	1 (2.8%)
Would notification improve prompt follow up?	**Slightly Disagree**	**Slightly Agree**	**Completely Agree**	
n=36)	2 (5.6%)	9 (25%)	25 (69.4%)	
Would you be more likely to visit patients when inpatient if notified?	**Not likely**	**Somewhat likely**	**Most likely**	
(n=36)	4 (11.1%)	15 (41.6%)	17 (47.2%)	
Would notification decrease rehospitalization?	**No**	**Maybe**	**Yes**	
(n=36)	5(13.9%)	11 (30.6%)	20 (55.6%)	
What is your preferred contact method?	**Email**	**Phone**	**Text**	
(n=36)	24 (66.7%)	8 (22.2%)	4 (11.1%)	
Do you think your career satisfaction would improve?	**Not likely**	**Somewhat likely**	**Very likely**	

(n=36)	5 (13.9%)	12 (33.3%)	19 (52.8%)

Intervention:

        Our intervention involved sending email notification to both primary care physicians and specialists at Tulane hospital when their patients were admitted to the Tulane medicine inpatient service. Primary care physicians and specialist seen within 6 months of hospitalization were to be included. All residents and interns along with staff hospitalists were educated about this intervention. A sample email template was provided to all residents through the online database Wiki which included basic information about the reason for hospitalization, the staff hospitalist physician, and contact information for the intern or resident sending the email. In addition, emails were tracked via carbon copy sent through a secure Tulane email account created for the purposes of this project. The data collection took place from February 1st, 2013 to March 28th, 2013.

Template Email
Dear Dr. "insert name"

I am one of the Internal Medicine Residents here at Tulane and am emailing you to inform you that your patient _____ was recently admitted to the Internal Medicine/Apollo service under Dr. _____as an attending. He/She is being treated for "primary diagnosis." Please do not hesitate to contact me with any questions or concerns about this patient. Thank you.

Your name
Your pager number

Post-Intervention Metric Values:

        During our data collection, a total of twenty-seven emails were sent that included the Ray Firm email account, one of which received a reply in our account. One of these emails appears to have been sent in error, as it is addressed to a different physician than it was sent to. Nineteen attending physicians were sent emails. All emails contained patient name, admitting diagnosis, attending name, intern/resident name and pager number. Several emails also included further details regarding hospital course. During this same time period 877 patients were hospitalized on the Tulane medicine service, making our participation rate amongst residents and interns just 3%.

        While 36 physicians responded to the initial survey, only 25 responded to our post-intervention survey. 11 respondents had received some correspondence during the intervention

period including 10 (40%) receiving only email, 4 (16%) receiving phone call or multiple methods, and 1 (4%) receiving a page.

Survey results are as below:

How often are you aware of hospitalization?	Never	Sometimes	Most	All
(n=25)	15 (60.0%)	6 (24%)	4 (16%)	
How often are you given contact information of admitting team?	Never	Sometimes	Most	All
(n=17)	12 (70.6%)	2 (11.8%)	3 (17.6%)	
How often do you visit hospitalized patients?	Never	Sometimes	Most	All
(n=25)	11 (44.4%)	8 (32..0%)	3 (12.0%)	3 (12.0%)
How satisfied are you with the current system in place for communication?	Completely dissatisfied	Somewhat dissatisfied	Somewhat satisfied	Very Satisfied
(n=25)	6 (35.3%)	6 (35.3%)	2 (11.8%)	3 (17.6%)
Would notification improve prompt follow up?	Disagree	Agree	Strongly agree	
(n=25)	1 (0.04)	13 (52%)	11 (44.0%)	
Would you be more likely to visit patients when inpatient if notified?	Not likely	Somewhat likely	Most likely	
(n=25)	4 (16%)	14 (56%)	7 (28%)	
Would notification decrease rehospitalization?	Not likely	Somewhat likely	Most likely	
(n=25)	4 (16%)	14 (56%)	7 (28%)	
Do you feel that notification of patient admissions has beneficially affect your career satisfaction regarding patient care?	Not likely	Somewhat likely	Very likely	
(n=17)	3(17.6%)	7 (41.1%)	7 (41.1%)	

Of those 17 had responded to both surveys and were included in our comparative analysis. In a few instances comparison with this select sample was not available due to changes in the survey and the entire pool of respondents was used for comparison. For all analyses, responses were grouped for analysis and chi-squared tests were performed to compare responses before and after intervention. None of our results showed a statistically significant change in responses before and after intervention, although many of them had trends toward more negative responses.

	Pre-Intervention	Post-Intervention	p-value
How often are you aware of hospitalization? (sometimes+most +all)	14 (82.3%)	7 (41.1%)	.127
How often are you given contact information of admitting team? (sometimes+most+all)	10 (58.8%)	5 (29.4%)	.196

How often do you visit hospitalized patients? (Sometimes+most+ all)	14 (82.3%)	10 (58.8%)	.414
How satisfied are you with the current system in place for communication? (Somewhat +very satisfied)	1 (5.9%)	5 (29.4%)	0.1
Would notification improve prompt follow up? (slightly/strongly completely agree)	34 (94.4%)	24 (96%)	0.95
Would you be more likely to visit patients when inpatient if notified? (somewhat+most likely)	32 (88.8%)	21 (84.4%)	0.84
Would notification decrease rehospitalization? (Maybe or Yes)	15 (88.2%)	15 (88.2%)	1

Problems Encountered:

One of the biggest challenges was getting residents and interns to participate in the intervention. Tulane wards is notoriously a busy service with upwards of 20 patients on services post-call. While interns and residents were strongly encouraged to participate, we were unable to provide any incentive for doing so. Many teams did not participate at all from what we were able to track.

A second problem was tracking emails. Although we provided residents and interns with a separate email address to cc our firm on to be able to better assess our project, we do believe there were emails sent not included in our analysis as providers who were not sent emails according to our data replied positively to our survey.

Learning Points:

Transitions of care are an important aspect of medical care that is frequently overlooked. Often times, multiple changes are made to patients' medication regimens during hospitalization, but the outpatient provider who has the task for caring for patient's long-term is unaware of these changes. This causes confusion for both the patient and the provider, which can lead to unintentional errors and possibly readmissions. Because of this, thorough communication to the outpatient provider about the details of the hospitalization and medication changes is critical to patient care and safety.

Taking a few extra minutes to communicate with outpatient providers about a patient's hospitalization is not only beneficial to the patient in terms of continuity of care, but is also beneficial to the providers. Outpatient providers in our sample felt more satisfied when they were notified of their patients' admissions, though this trend was not statistically significant.

Through our project, of those surveyed, fewer had actually been notified than prior to our intervention. We do not feel that this necessarily reflects the case of every physician as we know that some physicians were notified who did not respond to our survey. The awareness of the need for notification and desire from the outpatient physicians provided a strong impetus for wanting to continue this project and to motivate our colleagues to participate.

Do you consider your project a success? Why?:

Overall, we consider our project a success. Although our sample size was rather small, we did succeed in making both the residents and staff more aware of the importance of adequate transitions of care. We believe that our project pointed out problems with our current system with the lack of communication between inpatient and outpatient providers. By bringing this issue into the forefront, we feel that perhaps inpatient providers will be more inclined to ensure a better transition to the outpatient provider.

In an effort to make our efforts sustainable, we have considered having the information in our intern handbook updated to include obtaining the patient's primary care physician information on admission and to officially have the discharge summary format include forwarding a copy to the primary care physician. Other possibilities include having staff remind residents and interns at the start of each rotation of the importance of communication with the outpatient providers. Currently, our intervention solely included patients seen by Tulane providers, but we could expand our project by implementing our intervention to our VA and University Hospital services as well. In the future, we could also consider compiling a list of community primary care physicians' contact information so that we are better able to transition care of patients not solely cared for by Tulane.

References
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