Brief Communication

Inpatient Experiences with MyChart Bedside

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Abstract

Background: As technology is increasingly being integrated into hospital-based care, it is important to assess patient experiences. The purpose of this project was to conduct an evaluation of inpatient experiences with MyChart[®] Bedside.

Materials and Methods: A convenience sample of patients ($n=88$) were included in this study, who responded to a Web-based self-reported survey that was embedded within the MyChart Bedside application.

Results: The majority of respondents (78%) reported that MyChart Bedside was easy to use. The respondents agreed that MyChart Bedside improved communication with their nurses (74%) and with their physicians (53%), as well as helped them understand their medications (90%) during their inpatient hospitalization.

Conclusions: The study found that the majority of patients were satisfied with MyChart Bedside, and they reported that it helped them learn more about their medications, as well as communicate with their care team.

Keywords: tablets, patient satisfaction, information technology, telemedicine

Introduction

Health information technologies (HIT) have rapidly expanded. Electronic health records (EHRs) have changed how providers and patients share health information, and they are projected to yield significant improvements in efficiency and potential cost savings.¹ Although research suggests that HIT may have a positive impact on efficiency and effectiveness of care,² there is limited empirical evidence on whether HIT improves patient satisfaction. A review

found that only 54% of studies reported that HIT was associated with improvements in patient satisfaction.³ Further, there have been a limited number of studies on whether using tablets in the hospital improves patients' experiences and satisfaction.⁴

MyChart[®] Bedside, available from Epic, is an application that allows patients to view their EHR during an inpatient hospitalization. It was designed to improve inpatient education and engagement, and to strengthen patients' relationship with their care team. MyChart Bedside allows patients to view in real time information on their vital signs, laboratory results, medical procedures, and medications. It also allows patients to learn about their care team, request services, and access educational information. The specific features of MyChart Bedside are determined during implementation; therefore, its functionality may vary across hospitals. St. Rita's Medical Center was the first hospital in the world to implement MyChart Bedside in August 2013. It was initially piloted on a single unit and then eventually expanded to nearly the entire hospital by August 2015. During the first 2 years of implementation, the application was available on tablets provided by the hospital. In December 2015, an upgrade was released that allowed patients to access MyChart Bedside from their personal devices. St. Rita's now has ~85 tablets available for patient use, and ~50 MyChart Bedside accounts are activated every day.

There are limited published articles on MyChart and even fewer in the inpatient setting.⁵⁻⁸ One small study ($n=30$) found that hospitalized patients who accessed their EHR had improved inpatient experiences and greater confidence in their care.⁹ The purpose of our study is to describe patients' experiences of accessing and using MyChart Bedside.

Materials and Methods

A Web-based survey was administered to a convenience sample ($n=88$) of St. Rita's Medical Center patients. The survey was embedded within the application itself as a link to an external Web site. The survey was available between October 2013 and March 2016. The survey consisted of 14 close-ended items and 2 open-ended items. Given that the Web-based survey was not secure, it did not collect patient-identifiable or sociodemographic information. Stata SE 13.1¹⁰ was used to conduct the statistical analysis. Descriptive statistics were used to summarize the survey responses. This project was reviewed and approved by the St. Rita Medical Center's Institutional Review Board (IRB).

Results

The majority of respondents reported that MyChart Bedside improved their communication with their nurse (74.1%), physician (52.4%), and care team (60.8%). The vast majority of patients (89.7%) reported that it helped them understand their medications better (Table 1). The top five most useful features of MyChart Bedside were (1) viewing laboratory results ($n=51$), (2) seeing information about medications ($n=49$), (3) information about who was caring for them ($n=45$), (4) seeing their schedule ($n=32$), and (5) learning more about why they were in the hospital ($n=28$). The five least useful features were (1) taking notes ($n=25$), (2) making requests ($n=11$), (3) signing up for MyChart ($n=10$), (4) viewing laboratory results ($n=10$), and (5) learning why they were in the hospital ($n=8$).

The majority of respondents (83.5%) reported that they used the tablet to access MyChart Bedside. Respondents also used the tablets to browse the Internet (32.9%), play games (17.7%), and watch movies (11.4%). Only 11 patients reported that their family or friends used MyChart Bedside, and several respondents ($n=21$) reported that they did not know that family members or friends could access their MyChart Bedside account. The top three categories of information that were new to the patient because of their use of MyChart Bedside were as follows: medications ($n=6$), laboratory results ($n=6$), and health information and diagnosis ($n=5$).

Discussion

Patients' experiences were overall positive, suggesting that MyChart Bedside may be an effective tool to improve patient satisfaction. MyChart Bedside received the highest ratings for

helping patients improve their understanding of medications and communication with nurses. It was interesting to note that MyChart Bedside had greater improvements in nursing communication compared with physician communication ($p=0.003$). During implementation, nurses were responsible for introducing the tool to patients and nurses may have been more actively involved with it.

The two least useful features were taking notes and making requests, which is not surprising given that the hospital provided tablets with only an onscreen keyboard. The "I Would Like" feature for making requests generates a flag in the system; however, it does not push a message to the care teams' mobile devices. Therefore, the nursing staff recommended that patients avoid using this feature. The results of this study suggest that patients' experiences of using the specific features of MyChart Bedside are linked to their functionality.

There are several limitations to this study. No patient identifiable information was collected, so the extent to which this sample represents the population of MyChart Bedside users is unknown. In addition, we do not know the sociodemographic or clinical characteristics of the respondents nor whether use impacted overall hospital satisfaction ratings. The survey was not validated, and the high ratings on some of the items may suggest ceiling effects. Nevertheless, this study provides preliminary evidence on patients' experience of using MyChart Bedside and may inform the development of future research studies.

In summary, patients report that MyChart Bedside is a tool that improves their understanding of their medications and their communication with their care team. MyChart Bedside was developed as a tool to improve patient engagement in

Table 1. Inpatient Agreement with Statements Regarding MyChart® Bedside Usage

	STRONGLY AGREE, % (N)	AGREE, % (N)	NEUTRAL, % (N)	DISAGREE, % (N)	STRONGLY DISAGREE, % (N)
Improved communication with nurses	45.9 (39)	28.2 (24)	21.2 (18)	3.5 (3)	1.2 (1)
Improved communication with doctors	23.8 (20)	28.6 (24)	42.9 (36)	2.4 (2)	2.4 (2)
Helped me communicate with my care team	30.4 (24)	30.4 (24)	29.1 (23)	5.1 (4)	5.1 (4)
Helped me understand my medications better	57.5 (50)	32.2 (28)	8.0 (7)	2.3 (2)	0.0 (0)
Bedside application was easy to use	39.2 (31)	43.0 (34)	7.6 (6)	5.1 (4)	5.1 (4)
Tablet was easy to use	41.0 (32)	34.6 (27)	14.1 (11)	3.8 (3)	6.4 (5)
Needed help learning to use Bedside	9.0 (7)	23.1 (18)	24.4 (19)	29.5 (23)	14.1 (11)
Needed help learning to use the tablet	11.4 (9)	19.0 (15)	17.7 (14)	29.1 (23)	22.8 (18)
Liked the way Bedside looked	32.5 (25)	44.2 (34)	18.2 (14)	2.6 (2)	2.6 (2)
Let me feel like I had control over my stay	36.4 (28)	28.6 (22)	26.0 (20)	6.5 (5)	2.6 (2)

care, and additional research is needed to determine whether it has achieved this goal, as well as whether it improves patients' knowledge. In addition, it will be important to determine whether MyChart Bedside and other similar tools have the potential to improve overall inpatient experiences.

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Disclosure Statement

No competing financial interests exist.

REFERENCES

1. Hillestad R, Bigelow J, Bower A, et al. Can electronic medical record systems transform health care? Potential health benefits, savings, and costs. *Health Aff* 2005;24:1103–1117.
2. Buntin MB, Burke MF, Hoaglin MC, Blumenthal D. The benefits of health information technology: A review of the recent literature shows predominantly positive results. *Health Aff* 2011;30:464–471.
3. Rozenblum R, Donze J, Hockey PM, et al. The impact of medical informatics on patient satisfaction: A USA-based literature review. *Int J Med Inform* 2013;82:141–158.
4. Arora J, Mahmud R. Tablets: The new prescription? *J Hosp Med* 2014;9:552.
5. Morgan MS, Antonelli JA, Lotan Y, et al. Use of an electronic medical record to assess patient-reported morbidity following ureteroscopy. *J Endourol* 2016;30:S46–S51.

6. Wagner LI, Schink J, Bass M, et al. Bringing PROMIS to practice: Brief and precise symptom screening in ambulatory cancer care. *Cancer* 2015;121:927–934.
7. Gerber DE, Laccetti AL, Chen B, et al. Predictors and intensity of online access to electronic medical records among patients with cancer. *J Oncol Pract* 2014;10:e307–e312.
8. Curtis J, Cheng S, Rose K, Tsai O. Promoting adoption, usability and research for personal health records in Canada: The MyChart experience. *Health Manage Forum* 2011;24:149–154.
9. Greysen SR, Khanna RR, Jacolbia R, Lee HM, Auerback AD. Tablet computers for hospitalized patients: A pilot study to improve inpatient engagement. *J Hosp Med* 2014;9:396–399.
10. StataCorp. 2013. *Stata statistical software: release 13*. College Station, TX: StataCorp LP.

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