Helping Patients Be Better Patients:
A Qualitative Study of Perceptions About Inpatient Portal Use

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ABSTRACT

Introduction: As more hospitals introduce inpatient portals, it is increasingly important to understand their impact on patient experience and the care process. We conducted this study to learn from patients and care team members about their experience with an inpatient portal.

Methods: We interviewed 120 patients and 433 care team members across a seven-hospital academic medical center that offers an inpatient portal to hospitalized patients. Interviewees were asked about their use of the inpatient portal and its impact on patient experience. Recorded interviews were transcribed and rigorously analyzed using both inductive and deductive methods.

Results: We found that the inpatient portal was perceived to help patients be "better patients" by improving their ability to be informed about their health and by enabling them to be more involved in the care process. Care team members suggested portal use could be improved by addressing challenges with tablet administration, use of the patient education feature, and the functionality of the scheduling feature.

Conclusions: Across interviewees, we found that inpatient portals were perceived to improve the hospital experience and increase empowerment for patients by offering information about care in a manner that allowed patients to join their care teams as active, participating members.

Introduction

Patient portals, linked to an electronic health record system and accessible outside the context of a patient encounter, have helped patients increase engagement with both their personal health information and their providers,[1,2] and have contributed to an increase in overall satisfaction.[3–5] Inpatient portals provide meaningful information specific to the acute care setting, including functions enabling patients to view results, communicate with their care team, express dietary preferences, record their thoughts, and access educational resources.

Emerging evidence regarding inpatient portals suggests that the access to health information and the ability to message the care team are helping to improve patient experience and engage patients in their care.[6–9] While this evidence is promising about the potential of inpatient portals, questions remain about how the inpatient portal affects the dynamics between the care teams and their patients.

To examine attitudes about the inpatient portal and its impact on the relationship between providers and their patients, we conducted an extensive qualitative study of inpatient portal use from the perspectives of both patients and care team members following system-wide implementation of the portal.

Methods

STUDY SETTING

In 2016, the Ohio State University Wexner Medical Center (OSUWMC) became the first academic medical center (AMC) to adopt an inpatient portal throughout its health care system. Eligible patients in any of the seven hospitals are now offered an Android tablet with Epic's inpatient portal application, MyChart Bedside, installed along with a standard suite of tablet tools, internet access, and a collection of entertainment options.

STUDY DESIGN

We conducted a qualitative study consisting of patient and care team member interviews between January 2017 and May

Table 1. Perceptions About How Access to Information in the Inpatient Portal Helps Patients Be "Better Patients"

	EXAMPLE VERBATIM COMMENTS FROM PATIENTS	EXAMPLE VERBATIM COMMENTS FROM CARE TEAM MEMBERS
Increases patients' abilities to be better informed about their health	"Because then you can…sometimes doctors come in and they explain things to you or whatever but you're not really…you kind of understand it. And with MyChart you can go and look it up and get the educational material on it and have a more thorough understanding."	"It's nice for the patient to know their labs before having to ask me or like I guess their expected discharge date's on there, so they have an idea of what time they're going home."
	"I just was able to look up some kind of basic information on some of the diagnoses that they were tossing around so I was able to have more questions you know, informed questions."	"It just gives patients more education and information right at their hands so that they see it."
	"Well it keeps you more in tune to your health. I mean it tells you you got meds coming. It tells you why you're taking the meds. There's advice that's good for everybody. 'Cause doctors fail to realize that we don't understand all that medical terminology."	"Even if they are just browsing through MyChart Bedside, they may learn something about themselves."
Enables increased patient involvement in the care process	"I liked that I had access to my chart. I liked that I knew when and what everything they put in the chart…I like that I was more independent. Instead of having to depend on them—everything was right there at my fingertips. Because it helps you…to be more independent. And then you know exactly everything with what's going on with your care. It's like you are a part of your care with the doctors and the nurses."	"I think it's a really great thing for patients so that they can participate in their care. The ones who are able to do so they appreciate that, that they can have access to that information."
	"I could literally look at my lab results and ask questions where I need to ask questions and how specific. I could pull it with them standing in the room, and say, 'Hey, here's what the trend is, what are we going to do?'"	"…empowers them to have something to talk about with us. And they can ask the questions like, they'll feel like, 'Hey I saw this on the tablet so, what does this mean? Talk to me about that.' So if they have questions they are more willing to say, 'I saw it over here, I don't understand. Can you talk to me about this?' And that opens up that conversation."
	"It felt like I had more awareness of, you know, what was being done. And if I had any questions I could look there first and then be able to ask my doctors about, about it."	"I like that they're able to be involved. I think it lets patients who want to be involved in the care be very involved."

2018. Patients who had consented to study participation while hospitalized were randomly selected for telephone interviews based on their discharge dates. In-person care team member interviews were conducted with nurses, nurse assistants, and unit clerks across the 53 inpatient units of the AMC. The Institutional Review Board of The Ohio State University approved this study.

DATA COLLECTION

We interviewed 120 discharged patients who had used the inpatient portal. Interviews were conducted using a semistructured interview guide and lasted an average of 15 min. Questions were posed as value neutral, allowing patients to comment on any aspect of their experience with the portal. We augmented this information with 10-min interviews with 433 care team members across the AMC. Interviewers used a different semistructured guide that asked about perspectives on

patients' inpatient portal use, including how the inpatient portal appeared to impact the hospital experience for patients and themselves. All interviews were audio-recorded, transcribed verbatim, and deidentified.

DATA ANALYSIS

Transcripts from patient and care team member interviews were both inductively and deductively analyzed, consistent with rigorous qualitative methods.[10,11] First, a preliminary coding dictionary was developed based on questions in each of the semistructured interview guides.[12,13] Two members of the research team, overseen by the lead investigator (A.S.M.), coded all interviews using the preliminary coding dictionary. Next, coded data were further classified into subcodes that included emergent themes identified through the coding process.[12] Frequent meetings were held with the coding team

and lead investigator to ensure agreement about themes and subthemes. We used the ATLAS.ti software (version 8.3.1) to support this coding and analysis process.[14]

Results

Across interviews, comments by both patients and care team members revealed a common theme that the inpatient portal tools were perceived to help patients be "better patients." Collectively, interviewees discussed how access to information through the portal was improving patients' interactions with the care team as evidenced by better questions, more substantive conversations, and increased patient involvement in the care process. We characterized two specific ways in which inpatient portal access reportedly helped patients be "better patients": (1) by increasing patients' abilities to be better informed about their health; and (2) by enabling increased patient involvement in the care process. Supporting verbatim quotes from both interviewed patients and care team members, organized by these two subthemes, are presented in *Table 1*.

In addition, care team members suggested ways to enhance inpatient portal utilization and further assist patients during their hospital stays. Notably, they described three areas needing to be addressed to facilitate improved portal use by patients: (1) the tablet administration process; (2) use of the patient education feature; and (3) the functionality of the application features involving schedules. Verbatim quotes from interviewed care team members highlighting these three needed areas of improvement are presented in *Table 2*.

Discussion

Our findings regarding the impact of the inpatient portal on the relationship between the care team and their patients suggest that this tool can be transformative for both parties. Our analysis found that inpatient portals can improve the hospital experience and empower patients with a greater sense of control during an inpatient stay by offering information about care in a manner that allows patients to join their care teams as active, participating members. As a result, the inpatient portal likely not only makes "better patients" but also makes for a better care team.

Making sure that accessibility and the ability to use an inpatient portal are equitable for all patients will be an important issue moving forward as prior work has identified disparities in use among vulnerable patient populations.[15,16] Hospitals must address the usability of this type of patient-facing

Table 2. Perceptions on How to Improve Inpatient Portal Utilization	
PERCEIVED NEED FOR IMPROVEMENT	**EXAMPLE VERBATIM COMMENTS FROM CARE TEAM MEMBERS**
Better processes for tablet administration	"Another thing I've noticed is if it's offered later within their stay, like not within the first day, when we try to offer it to them they're like, 'No I'm going home today so, no thanks.' So it's really important to get them within that first day."
	"If I get a patient like pre-op whatever post-op or something it's not like one of the first things on my mind to like ask them if they want a tablet. So if there is some kind of like I don't know sheet or something that's like in the rooms that just like say, 'We have tablets available,' or like a little poster that's like, 'We have tablets handy.'"
	"If there was like a reassessment a couple of days later or like a change of status that would maybe be better. If something popped up or like it was just kind of built into practice that we would reassess."
Better use of education feature	"I would love to see the education portion used more specially with meds, side effects, diagnoses, things that they're going through. And then see them correspond with, 'Yes, I understand that,'"
	"We're not really using that well either…the 'To learn.' And I don't see the patients utilizing it patients to say I understand it and it gets documented back to our IHIS [integrated health information system]."
	"Can we teach staff how to encourage patients to utilize it or therapists and nursing to use it for the patient education, that piece of it? Because I think there's a lot of opportunity."
Better functionality of features involving schedules	"I know they can see their schedule but everything doesn't flow like that half the time. Half the time tests are late or surgery gets moved or they come actually like an hour early and I mean like then they are on their call light every five seconds asking why hasn't anyone come to get me like why haven't I gone to this."
	"My personal opinion is it could become frustrating to a patient. They think they're going to have something done today but not this morning or this afternoon because things change so much that to make a specific schedule is challenging."
	"The thing that's annoying about the food ordering thing is that it will only let them order to a certain time and if they don't order it by this time then they can't."

technology[17,18] and may consider offering in-person training interventions to support inpatient portal use.[19,20]

LIMITATIONS

Our assessment occurred at a single site implementing only MyChart Bedside, making the generalizability of our findings to other sites limited. In addition, our study samples may have been biased toward patients and care team members who had positive opinions about the inpatient portal.

Conclusion

Tools such as the inpatient portal can transform the inpatient experience from one that happens *to* patients to a process that happens *with* patients. This insight may encourage further implementation of these and other patient-facing technologies that can enable and improve engagement between patients and care team members across the care continuum.

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