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Patient Portals in Pharmacist-run Ambulatory Care Clinics: Is There "Meaningful Use"?

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Abstract
Objective

The purpose of this study is to describe patient portal utilization within pharmacist-managed clinics at an academic medical center from the perspectives of the institution, healthcare team, and patient. This study measures the progress toward meeting requirements for meaningful use per the Centers for Medicare and Medicaid Services (CMS).

Methods

The study included patients in pharmacist-managed clinics and consisted of a retrospective chart review and patient survey. Primary endpoints consisted of: 1) report progress toward meeting CMS criteria for meaningful use in subset of patients seen in the pharmacy-managed clinics, 2) describe utilization of patient portal across the healthcare team in patients of the pharmacist-managed clinics and 3) describe the usefulness of the patient portal from the patient's perspective.

Results

The pharmacist-managed clinics met and exceeded meaningful use requirements. Seventy one percent of patients had been offered portal access and more than 10% of unique patients initiated a message. The healthcare team utilized the patient portal for a variety of clinical and non-clinical purposes. Per patient survey, of those who used the patient portal, 80% reported at least monthly use and 96% reported that the portal was either somewhat or very useful.

Conclusions

Pharmacist-managed clinics met and exceeded CMS meaningful use criteria. Patients reported that the patient portal is a useful tool that improves access to healthcare providers and increases efficiency. Pharmacists play a valuable role in assuring hospitals meet required CMS meaningful use objectives in order to qualify for the financial incentives.

Keywords
Meaningful use, ambulatory care, electronic health record, pharmacist

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Patient portals in pharmacist-run ambulatory care clinics: Is there "Meaningful Use"?

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Results: The pharmacist-managed clinics met and exceeded meaningful use requirements. Seventy-one percent of patients had been offered portal access and more than 10% of unique patients initiated a message. The healthcare team utilized the patient portal for a variety of clinical and non-clinical purposes. Per patient survey, of those who used the patient portal, 80% reported at least monthly use and 96% reported that the portal was either somewhat or very useful.

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Background

Patient portals are increasing in popularity within health systems and have potential to be the future of provider-patient communication outside of face to face office visits. Patient portals are healthcare-related online applications that vary in structure, from being stand-alone to being integrated into an existing electronic medical record (EMR) system.[1,2]

The central feature that makes a system a patient portal is the ability to access individual patient health information in a secure manner through the Internet. In addition, virtually all patient portals allow patients to interact in some capacity with health care providers. Patient portals benefit both patients and providers by streamlining communication and increasing efficiency and productivity.[1] Additional proposed benefits of the EMR and patient portal for healthcare providers include improved provider-patient communication, reduction in recordkeeping costs, decrease in repeat lab tests, shorter hospital stay, higher patient safety rate, and reduced medical errors.[3]

Contributing to the increased utilization of patient portals is their incorporation into the Centers for Medicare and Medicaid Services (CMS) EMR Incentive Program. This program is intended to ensure meaningful use of the EMR, and this component is specifically to promote patient engagement in his or her health and health care.[3,4] Institutions must meet a total of 18 out of a possible 23 objectives to qualify for financial incentive from CMS. Thirteen of the 18 required objectives are "core" objectives that are set by CMS. The institution elects the remaining five objectives from a choice of 10 potential objectives. If at least 18 requirements are not met, then the institution is subject to a 1% decrease in monetary incentive received per year (max of 5%).

Meeting and exceeding the requirements of meaningful use can be achieved in multiple ways. Sharing healthcare information with patients through an EMR or personal health record (PHR) may meet minimum requirements depending on the stage of meaningful use. However, electronic entry into the EMR via a patient portal is more interactive than the EMR alone. Patient portals provide additional functions to provide patients easier access to managing their own care that include but are not limited to: secure messaging to providers, refill requests, managing appointments, viewing lab results, and accessing disease state specific educational materials.[3,5]

As institutions become more aware of the benefits of tools available to their patients through patient portals and the available incentives through CMS, more portals are being implemented into healthcare systems. There is potential to broaden the scope of the patient portal within the EMR as more information becomes available through patient feedback and description of current utilization.[5]

Data is limited describing how to most efficiently and effectively use patient portals in practice to deliver the best patient care and provide patient utility in the available portal functions. Even less data is available describing the potential for pharmacist use of a patient portal in a clinic setting. The data that does exist has shown that patient portals provide patients with tools that encourage participation and help manage their healthcare.[5-8] One study has identified that interaction with a pharmacist through use of a patient portal significantly improved vaccination rates in an internal medicine clinic.[8]

Rationale for this study is that the implementation of EMR technology, including patient portals, will allow for continuous quality improvement and information exchange between patient and provider. The objective of this study is to describe patient portal utilization within pharmacist-managed clinics at an academic medical center from the perspectives of the institution, healthcare team, and patient. This study measures the progress toward meeting requirements for meaningful use per the Centers for Medicare and Medicaid Services (CMS).

Methods

Protocol

The study was conducted with patients of the pharmacist-managed, physician-supervised ambulatory care clinics in an academic medical center heart hospital. The pharmacist-managed clinics have been in place since 2006 and provide the following services: anticoagulation management, antiarrhythmic medication monitoring, cardiovascular risk reduction and lipid management, smoking cessation, and medication therapy management services. The pharmacists in these clinics conduct approximately 13,000 patient visits per year at the time of study completion (academic year 2013-2014).

The academic medical center heart hospital utilizes Epic© software for their EMR and the patient portal within the EMR is OSUMyChart. The OSUMyChart patient portal is a custom built application within Epic© including the following features: a messaging center for patients to send and receive messages from their healthcare providers; appointment management for reminders, cancellations and rescheduling; billing and insurance functions; and a health summary outlining recent lab results, current

medication list, and links to disease state specific education materials. OSUMyChart can be offered to patients at any point in their contact with the health system. Upon acceptance, a unique code is generated for patients to activate their account. Once activated, patients create a username and password and can start using OSUMyChart immediately.

The academic medical center heart hospital chose "Use secure electronic messaging to communicate with patients on relevant health information" as one of the elective objectives to meet criteria for meaningful use of a patient portal within an EMR. The criteria include offering access to the patient portal to 50% or more of patients who come into contact with the health system and receiving a patient initiated patient portal message from at least 10% of unique patients.

Selection Criteria

The study utilized both a retrospective chart review and patient survey and was approved by the academic medical center heart hospital's investigational review board. The retrospective chart review was completed by accessing the EMR. Patients who visited one or more of the pharmacist-run ambulatory care clinics between April – June 2013 (quarter 1), July – September 2013 (quarter 2), and October – December 2013 (quarter 3) were included if the heart hospital was listed as their primary location for receiving care. Patients were excluded if they were prisoners, pregnant women, or under the age of 18 or over the age of 89.

Measurements

The primary endpoints of the retrospective analysis include:
1) Institutional utilization outcomes based on the CMS criteria for meaningful use, including the percentage of patients in the pharmacist-run ambulatory care clinics who a) were offered OSUMyChart, b) accepted OSUMyChart, c) generated a message to a provider via OSUMyChart, and d) patient generated messages which were responded to within one business day (response time per academic medical center, not CMS).
2) Health care team (pharmacists, office associates, and patients) utilization, including describing a) the frequency with which members of the team generate OSUMyChart messages and b) the reason for the message.

For the survey portion, a sample of patients presenting for a visit to one of the pharmacist-managed outpatient ambulatory care clinics over a four-day span were offered an OSUMyChart patient satisfaction survey designed for this study (Figure 1). Surveys were eligible if they were filled out appropriately. The primary outcomes of the patient survey were to describe the utility

and usefulness of OSUMyChart from a patient perspective.

Figure 1
OSUMyChart Survey provided to patients visiting pharmacist-managed clinic

1. Do you have an OSUMyChart account?
Yes (Complete Questions 3-10)
No (Complete Question 2 then stop)

2. If no, why not?
a. Never heard of it
b. Never offered it
c. Would not use it
d. Don't have access to the technology required to run it
e. Other – please specify: _____
(Thank you for participating in this survey! If you would like information on OSUMyChart or are interested in signing up, you can ask any of your providers for help.)

3. If yes, how often do you access your account?
a. Every day
b. At least once a week
c. At least once a month
d. Once every few months
e. I have not accessed my account since signing up

4. How do you most often access your account?
a. On a personal computer
b. On a public computer (ie. At a library, etc)
c. On my Smartphone
c. I don't know (ex: a relative is the primary user of the account)

5. How useful do you find OSUMyChart to be?
a. Very useful
b. Somewhat Useful
c. Neither Useful nor Not Useful
d. Not Useful

6. Do you find that OSUMychart has improved access to your medication record?
a. Yes
b. No

7. Do you feel that OSUMychart has improved access to your providers?
a. Yes
b. No

8. Do you feel that OSUMychart is as effective in reaching your providers as a phone call?
a. Yes
b. No

9. What OSUMyChart function(s) do you use the most?
a. Reviewing my medication list
b. Requesting medication refills
c. Sending messages to my providers (Including prescription request)
d. Reviewing, moving, or canceling Appointments
e. Reviewing lab results
f. Billing & Insurance
g. Links to education
h. Other – please specify: _____

10. What additional features would you like to see on OSUMyChart?
a. Reminders to take medications
b. Reminders to request refills
c. Access to vitals (blood pressure, height, weight, heart etc)
d. Ability to send messages directly to other providers (nurses, etc)
e. Other – please specify: _____
f. None

Statistics

      A single investigator conducted data collection and data were analyzed using numerical descriptive statistics only.

Results

Retrospective Chart Review

      A total of 1,635 patients met inclusion criteria for the chart review. The majority of patients were 51 or older, male, Caucasian, carried Medicare insurance, and retired (see Table 1).

Table 1

	Quarter 1 n = 590	Quarter 2 n = 535	Quarter 3 n = 510
Age	n (%)	n (%)	n (%)
18-25:	3 (0.5)	3 (0.5)	5 (1)
26-35:	22 (3.7)	17 (3)	21 (4)
36-50:	76 (13)	74 (13)	72 (15)
51-65:	216 (36)	183 (34)	187 (36)
65+:	253 (42)	242 (45)	215 (42)
Deceased	20 (3)	16 (3)	10 (2)
Sex	n (%)	n (%)	n (%)
Male	379 (64)	357 (67)	340 (67)
Female	211 (36)	178 (33)	170 (33)
Race	n (%)	n (%)	n (%)
African American	56 (10)	60 (11)	51 (10)
Caucasian	511 (86)	453 (85)	436 (85)
Other	23 (4)	22 (4)	23 (5)
Insurance	n (%)	n (%)	n (%)
Medicare	297 (51)	288 (53)	261 (51)
Medicaid	86 (15)	40 (7)	36 (7)
Private	150 (25)	157 (29)	157 (30)
None	14 (2)	11 (2)	14 (3)
OSU	43 (7)	40 (7)	42 (8)
Employment Status	n (%)	n (%)	n (%)
Employed	198 (33)	166 (31)	166 (33)
Unemployed	122 (21)	122 (22)	112 (22)
Retired	267 (46)	247 (46)	232 (45)

      During quarter 1, 47% of patients in the pharmacist-managed clinics were offered portal access. By quarter 2, this increased to 64%, then increased further in quarter 3 to 74%, indicating that the pharmacist-managed clinics exceeded meaningful use by offering patient portal access to at least 50% of patients. Of those patients offered portal access, approximately 70% accepted the offer consistently across each quarter.

      Percent of patient initiated messages rose from 11.8% (number of patient initiated messages per total number of messages) in quarter 1 to 14.8% in quarter 2 and remained steady at 14.5% in quarter 3, all of which exceed the minimum 10% required by CMS to meet meaningful use. One hundred percent of patient generated messages were replied to within one business day which satisfied the academic medical center's policy.

      Utilization by the pharmacists and the office associate was varied. A total of 806 portal messages were generated over the three quarters. The majority (n=638) were generated by the office associate staff for non-clinical messages and included primarily lab reminders or missed or cancelled appointment notifications. Pharmacist initiated messages also occurred (n=116) and primarily included relaying mostly clinical information such as lab results (65%) and drug information (10%). The remaining messages were related to appointments, providing informational resources, and reminders to establish with a primary care provider. Characteristics of the 112 messages generated by the patients also varied between clinical and non-clinical. When compared quarter to quarter, there was no clear trend among which types of messages were being sent the most frequently. The most common reasons across the quarters for patient messages included appointment management (30%), requesting lab results (17%), and drug information inquiries (14%).

Prospective Survey

      Of the 100 patient satisfaction surveys distributed, 60 were returned and 53 were eligible for inclusion. Surveys were excluded if the patient indicated that they did not have OSUMyChart but continued to answer the remaining questions. Of those included, 56% of patients had patient portal access. The remaining 44% who did not have access stated a variety of reasons why, including: "Lost my username and password," "Planning to sign up," "Would use if I had instructions," "Just found out about it," and "I'm here enough, I can just ask." The demographics of patients who completed surveys aligned with those stated earlier for the retrospective chart review. Patients who answered the question regarding use of patient portal (n = 30) reported that they use it every few months (14%), monthly (40%), weekly (20%), or daily (6%). Only 20% of patients reported they have access but do not use it. Patients who answered the question about access point (n=27) reported accessing the patient portal on a personal computer (74%) or smart phone (19%). The majority of patients who answered the question regarding usefulness of the patient portal (n=26) reported it to be very useful (53%) or somewhat useful (43%). No patients expressed that the patient portal was not useful. When asked if the patient portal provided easier access to medical records, facilitated easier communication with providers, and if it was as effective as a phone call, the

majority of patents selected "yes" (96%, 68%, 70% respectively).

The most popular functions of OSUMyChart according to the patient satisfaction survey were reviewing lab results (26%), messaging providers (21%), and appointment management (21%) (n = 47 responses, 21 unique patients). Of those functions left to be desired, patients selected refill reminders (25%), messaging other providers like nurses or medical assistants (25%), and having access to vital signs (22%) (n = 39).

Discussion and Conclusion

Discussion

This study found criteria for use of patient portals, as defined by CMS meaningful use, was met and exceeded for the pharmacist-managed clinics at an academic medical center heart hospital. The patient portal was utilized by various healthcare team members for a variety of purposes. Patients visiting the pharmacy-managed clinics found the patient portal to be a useful tool allowing them to connect with their providers for a multitude of reasons and in a meaningful way.

The academic medical center heart hospital continues to promote the benefits of OSUMyChart to drive patient and provider usage through marketing materials available in most areas of the medical center and affiliated medical office buildings, likely accounting for the increase in offer rate seen across quarters. Strategies employed during the study period included a tip sheet and tutorial available on the academic medical center's intranet and availability of promotional materials for patients explaining OSUMyChart. Future efforts aimed at increasing portal usage could include providing tutorials and examples of how to gain the most benefit from the tools available and including a reminder about the portal with their printed after visit summary.

Encouraging patients to generate a message can be challenging. Though the patient generated message criteria within CMS meaningful use is dependent on patient initiative, the healthcare team can encourage use by talking to patients about it and using the portal to communicate with patients when appropriate.

There is limited data describing use of a patient portal in a pharmacy clinic setting. However, patients taking advantage of patient portals appear to be active participants in their healthcare. According to Zhou et. al., increased participation could result in improved outcomes.[7] Patient portal features contained in OSUMyChart were found to be desired by patients, encouraging patient involvement in their own healthcare. Evidenced by the variety of features offered within OSUMyChart, it is clear that patients take advantage of

other tools in addition to secure messaging to providers. OSUMyChart can serve as a model for other academic medical centers to ensure a solid foundation for useable features in other patient portals.

This study did not investigate impact on cost savings, provider productivity, or healthcare team efficiency. Specifically regarding the office associate, efficiency is hypothesized to be improved, considering the number of generated messages and that the content of portal messages in the past had been communicated by verbal telephone calls. Therefore, future studies should include evaluating impact of patient portals on efficiency not only for the office staff, but also for the clinician.

Limitations of this study include its retrospective nature and that the survey was limited by patient interpretation and not validated. Attributes that strengthen this study include a large population for chart review and consistency in data collection by one reviewer.

Conclusion

This study demonstrates that pharmacists, as well as other members of the healthcare team, can use a patient portal in a meaningful way to communicate with their patients and vice versa.

The pharmacist-managed clinics at this academic medical center heart hospital met and exceeded CMS criteria for meaningful use. The healthcare team utilizes a patient portal to communicate with patients for a variety of clinical and non-clinical purposes spanning appointment reminders to reporting lab results. Patients who have access to the patient portal reported that it is a useful tool to improve access to healthcare providers and increase efficiency of those interactions. Pharmacists play a valuable role in assuring hospitals meet required CMS meaningful use objectives in order to qualify for financial incentives.

References

1. Patient Portals: Beyond Meaningful Use. Physicians Practice Web site. http://www.physicianspractice.com/technology/patient-portals-beyond-meaningful-use. Published June 27, 2011. Accessed October 14, 2013.
2. Encourage Patient Use of OSUMyChart. Ohio State University Wexner Medical Center. OneSource. Corporate News. https://onesource.osumc.edu/corporatenews/Pages/Encourage-Patient-Use-of-OSUMyChart.aspx. Accessed October 14, 2013.

3. Goel M., Brown T, Williams A, et al. Disparities in enrollment and use of an electronic patient portal. *J Genl Intern Med*. 2011; 26: 1112-1116.

4. Centers for Medicare & Medicaid Services (CMS), HHS. Medicare and Medicaid programs; electronic health record incentive program--stage 2. Fed Registrar 2012; 77: 13698-13829

5. Osborn C, Mayberry L, Wallston K, et al, Understanding patient portal use: implications for medication management. *J Med Internet Res*. 2013;15:e133.

6. Ammenwerth E, Schnell-Inderst P, Hoerbst A. The impact of electronic patient portals on patient care: a systematic review of controlled trials. *J Med Internet Res*. 2012;14(6):e162.

7. Zhou Y, Kanter M, Wang J, Garrido, T. Improved quality at Kaiser Permanente through e-mail between physicians and patients. *Health Affairs*. 2010; 29(7):1370-1375.

8. Otsuka S, Tayal N, Porter K, et al. Improving herpes zoster vaccination rates through use of a clinical pharmacist and a personal health record. *Am J Med*. 2013;126(9):832.e1-6.