

An Appreciative Inquiry into Patient Portal Acceptance by Medical Staff at Physician-Managed Clinics in the Western United States

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ABSTRACT

With the passing of the Affordable Care Act by the United States Congress, many healthcare organizations have implemented Patient Portals to help meet the patient engagement requirements of Meaningful Use measures. The Appreciative Inquiry (AI) 4D Model was the underlying methodology used to understand the key determinants needed for organizational change in the case study comprised of physician-managed independent clinics. The AI method asked caregiver stakeholders to envision an ideal, positive future for the patient health record information system, revise current practices and to construct a plan to move the organization in the desired direction. As organizations like the case study medical group raise patient portal workflow processes to a higher level of importance, patients will begin to adopt these procedures as their preferred methods and bring about a positive change in the patient-provider relationship.

Keywords: Appreciative Inquiry, Organizational Change, Patient Portal Adoption, Meaningful Use.

1. INTRODUCTION

Many healthcare organizations are striving to provide more patient-centered healthcare [1]. These efforts are moving beyond the examination room into patient's homes and their everyday lives. One way providers in clinical settings have been attempting to engage patients in their own healthcare is through online patient portals [2]. A patient portal is an information system that allows patients anytime accesses to their protected health information (PHI) [3]. Adoption or registration into a patient portal, also known as a patient health record (PHR), was previously instigated by an email solicitation from the provider, which is sent to and accepted by the patient.

Since 2011, many healthcare organizations are undertaking the task to meet Meaningful Use (MU) criteria for the EHR incentive program outlined by the Centers for Medicare and Medicaid Services (CMS) for eligible providers (EP) who adopt and meaningfully use certified Electronic Health Record (EHR) technology [4]. Three stages of MU have been identified with stated final goals of achieving interoperability of records, secure messaging between provider and patient, reduced cost of healthcare, and improved quality of care [3]. When a patient's medical record is kept digitally, the information is often entered, stored and managed in an Electronic Health Record (EHR) software application by the clinic or provider [5]. If a patient is registered in an integrated patient portal, after healthcare visits, laboratory tests, and other medical procedures, the patient's updated PHI is pushed from the EHR to the portal and their personal view of their health record is updated [6].

Physician-managed medical practices are banding together to spread the economic and technical burden of purchasing and maintaining these complex computer healthcare information systems (IS). Often these separate physician groups are autonomous in their workflow and processes even while they share the same technology infrastructure for EHR and PHR [7]. The technology acceptance of a personal tool like a PHR extends beyond the basic functionality or ease of use measures and depends upon how it is presented to patients and given relevance in their day to day interactions with their provider [5].

2. RESEARCH PROBLEM

There may be a patient portal digital divide when many active patients in ambulatory clinical practices are not enrolled or engaged with the patient portal [8]. The problem becomes more critical when from a patient's perception there is no integrated view of their PHI from other key providers, laboratories, and pharmacies [2]. Those most at risk of being outside this PHI information loop are those with chronic or ongoing conditions which comprise the majority of healthcare costs, and where an ongoing patient-provider interaction would likely increase quality of care [8].

Promoting and supporting patient portal meaningful use needs to become a fundamental part of the clinical practice, not just something the IT department wants done. While patients may benefit from using a portal to access their medical history, providers can be hesitant to adopt this technology because of worries over the potential time burden from communications, the activities are not usually reimbursed and also because of security concerns [9]. In a physician-managed medical practice, the organizational culture regarding patient portals needs to change and it is the physician/provider who holds the key to this change [10].

The goal of this study was to conduct an appreciative inquiry that would bring to light an organizational change strategy for independent, physician-managed practices that would help to increase adoption rates and meaningful use of a patient portal used by patients for accessing PHI and managing the patient-provider relationship beyond episodic care visits.

3. METHODOLOGY

Study Clinic and Researcher Qualifications

When conducting constructivist research for an information systems implementation, a single instrumental case can be used to explore an issue in a given context [11]. A group of independent, physician-managed clinics in Utah and adjoining Western states organized as Revere Health was the subject organization for this case study. Revere Health participated in an inquiry process that selected medical professionals and staff

subjects for interviews, examined workflow processes and conducted data analysis related to the PHR system.

The information system under investigation was the FollowMyHealth (FMH) patient portal provided by the vendor, Jardogs. This FMH patient portal is designed to help educate clinic patients, present an electronic view of their PHI and provide a vehicle for provider-patient relationship management, all components of patient engagement as required by the CMS EHR incentive program [4].

The investigator conducting this action research was a tenured faculty for 20 years in Information Systems and helped formulate curriculum for a Bachelor's emphasis in Healthcare Information Systems at Utah Valley University in Utah. These academic qualifications and a long-term relationship with the Revere Health organization through a faculty externship and a service learning partnership helped provide the researcher with an insightful and detailed understanding under which to conduct this research case study.

Appreciative Inquiry 4D Model

The theoretical methodology used to guide the organizational change process was Appreciative Inquiry (AI) and its 4D model: Discovery, Dream, Design and Destiny [13]. The AI method asks participant stakeholders to envision an ideal, positive future for the information system, revise accepted norms and to use social construction to drive a plan of action to move the organization in the desired direction [14]. When trying to determine which methodology was the most appropriate theoretical premise, the one that best fits with the organizational philosophical and managerial orientation should be chosen [15]. The altruistic healthcare organizational goals of striving to deliver a more accountable and patient-centered PHR experience provided a good fit for the AI research methodology which is dedicated to supporting positive, transformational change [16, 17].

The AI process was used to build evidence of the underlying organizational culture expressed through beliefs, opinions, and ideals for selected physician-managed clinics that have aligned with a central business organization. The research methodology was applied to the semi-structured interviews based upon the first three steps of AI which are: Discovery, Dream and Design [15].

The physician/providers and super user staff, were the main subjects of the AI. Super users are a group or community of domain specialists within an organization who serve as essential advisors and "problem-fixers" [18]. The super user group at Revere Health serve as powerful agents of change throughout the organization. Participants from provider and super user staff were chosen through multi-level purposeful sampling in conjunction with recommendations from clinical management and examination of practice patient portal adoption rates [20].

Appreciative Inquiry: Discovery

The first step in the AI methodology is known as discovery [19]. The AI discovery process assumes that key stakeholders are a resource to be consulted for positive accounts about the past, and present of the subject under investigation, in this case healthcare information systems, and patient portals specifically [14].

The goal of the discovery step was to gain insight into the beliefs, attitudes and expectations held by physician/providers and their staff related to the meaningful use of

patient portals. The discovery activity helped to provide a positive direction for informing organizational change at Revere Health. The researcher formulated the discovery questions to set the tone for the interview by asking participants to first draw upon favorable experience(s) with information systems to frame upcoming discussions about PHRs.

Appreciative Inquiry: Dream

The second of the 4D steps in AI, the dream, invited participants to look into the future and describe or imagine a highly successful implementation of an information system and the benefits to be valued or "appreciated" [14]. The dream questions were framed to elicit positive descriptions and features that both physician/providers and staff felt might contribute to an ideal PHR [21]. Stakeholders were asked about the perceived usefulness of patient portals, the role a "wildly successful" portal would play in supporting the patient-provider relationship and what ideal patient portal communication would look like. Questions about the ideal patient portal workflow, marketing, training and support were also included in the dream sequence of questions.

Appreciative Inquiry: Design

The final section of the physician/provider and staff interview questions moved the inquiry into the third AI step, design. A key component in many transformation processes is asking questions that help an organization envision innovative practices that move toward a preferred outcome [21]. The heart of organizational change can be uncovered with the AI process during the design phase and destiny phases [21]. Design type questions might ask the subjects to share ways they think the organization can create their own preferred solution. Participation in the 4D process allows stakeholders to become "powerful" within the organization and provide a constructivist view to planning and guiding innovative change [22].

The questions in the design step were targeted to understand the power dynamic that influences workers as they are asked to promote patient portal usage [23]. Additional follow up questions asked participants to conduct a gap analysis between an ideal PHR information system under study and current work practices [24]. The gap analysis questions were used to shed light on faults in the current clinical workflow and processes.

Appreciative Inquiry: Destiny

The last step in the AI 4D methodology is the destiny step [14]. A ceremony often conducted as part of the destiny process is an AI summit where stakeholder participants interact to socially construct the seeds of change within an organization [22]. While large organizations may hold an AI summit with hundreds or even a thousand participants, a smaller AI mini-summit could be used to address more specific organizational needs [14, 13]. Participants in an AI summit should bring their innovations and ideals back to the whole organization, but their actions while striving for an idealized solution should be grounded in the realities of the organization [26].

With the assistance of clinical management, an AI mini-summit was organized and key patient portal stakeholders were invited. Organizational support techniques were also explored as part of the strategic action plan for Revere Health patient portal adoption and MU attestation. Feedback and results from the AI mini-summit will be reported in the results section.

4. RESULTS

This section reports the results of the methodology described in the previous section. Revere Health providers, super user clinical staff and IT management served as vested partners who worked to increase meaningful use of patient portals over the two year period of the study.

Possible interview subjects were provided by the Applications Director at Revere Health. Three providers and six super user staff were chosen through purposeful sampling in conjunction with their active involvement in the clinic PHR workflow and their willingness to participate. The participant names were replaced with aliases for reference purposes and to protect their privacy.

Hermeneutic Analysis Results

Knowledge construction based upon textual narratives and other social artifacts should become a collaborative activity between users and analysts [25]. The hermeneutic circle provides a method where the investigator moves from the whole to the parts and back to the whole in an effort to increase understanding [11].

Key stories and themes were categorized and grouped looking specifically for technology acceptance descriptors. Upon completion of the AI discovery, dream, and design AI steps, relevant narratives, stories and patterns were organized in the form of charts and tables for analysis.

AI Discovery Analysis: The purpose of the discovery questions was to get participants thinking in a positive light about the traits they appreciated in healthcare systems. A discovery code network organized around keyword descriptor was used to tag or code transcription quotes related to discovery questions in the AI interview. As the researcher processed each interview transcription, these codes were associated with related quotes or partial quotes.

The favorable system comments reflected criteria from a previous information system used by the participant. Some of the appreciated attributes from previously used systems held up as valued measures included: user-friendly, easy to learn, comprehensive, intuitive, adaptable, flexible, easy to access, and standardized.

AI Dream Analysis: The AI dream questions asked participants to share their ideas of what a “wildly successful” patient portal might look like. Some of the interviewees kept reverting back to discussion of the current PHR used at Revere Health rather than an idealized PHR. Categories of particular interest to the researcher were: Patient Care, Workflow, MU, Communication, Patient Education, and Marketing, Training and Support. The majority of the comments shown in the dream summary in Table 1 were related to an idealized PHR that would facilitate patient-provider communication without the lag time experienced with current phone-centered communication. One staff super user envisioned a synchronous or almost immediate feedback or communication loop with providers.

AI Design Analysis: While the case study organization has implemented the FMH patient portal throughout most of its clinics, there are gaps in the patient experience as well as workflow of staff and providers. The design code network contained the code categories used to group interviewee design question responses and generate relevant quotes.

Table 1: Ideal patient portal attributes

Alias	Ideal Patient Portal Attributes
P-2	Probably to correspond with your doctor, instead of having to call and talk to someone. So probably if you could have something that corresponds directly with the doctor and they actually look at it and answer those back.
P-3	To be a really good communication tool it would need to have some ability to be a little flexible or broader based.
P-3	Just a way to always stay connected and communicate but also know if you're kind of out there where they're seeing your name and seeing stuff about you. You're also in their mind somewhat more than just only when they're sick or only when they have a problem.
P-5	It improves the quality and the timeliness of communications between the healthcare professionals and the patient.
P-5	It would provide reminders for patients. And then it would have an easy way to communicate. It would facilitate communication from the patient to the doctor.
P-6	I would like to completely end phone calls to my patients. I mean they would love it.
P-8	Even if they wait in a queue for five minutes, then it's faster than when they call in and its hours before we return their call.
p-9	Just better connection to their doctors.

Categories of interest for the design analysis were: Gap Workflow, Gap Communication, Gap Patient Changes Needed, Gap IT System Improvements, Gap Staff Improvements, and Gap Provider Improvements. The most significant issues related to gaps uncovered in the AI design questioning are shown in Table 2.

These issues were most often related to provider and staff workflow and the need for these stakeholders to champion the PHR with patients. FMH execution issues related to a cumbersome and frustrating login process and delays in labs or PHI updates were concerns that have been addressed with the application vendor and continue to be issues on their maintenance and product evolution.

5. ORGANIZATIONAL CHANGE

There is often a gap between standardized best practices for online systems and current organizational practices related to PHRs [28]. The goal of the discovery, dream and design AI interviews was to take the temperature of key stakeholders related to technical acceptance of PHRs and to begin to identify an action plan that might allow Revere Health to meet their attestation objectives under MU requirements.

Revere Health had several organizational challenges related to their efforts to increase patient portal adoption and meaningful use: lack of an online community to support super users, no steering committee existed for patient portal stewarding, and MU reporting was only completed at the end of attestation time period and was not widely available to influence actionable intelligence at the practice level.

Table 2: AI Design Gap Analysis

Alias	Design: Gap Analysis of FMH Portal
P-3	They probably like to see better communication. Where they can make requests and get responses back...
P-4	I have not been on the patient's side to see what they see. I just know that this is available to them. I don't know the other side of what they see, problems they encounter as they try to access the portal. So I am not sure what would be beneficial for them.
P-6	And say look, this is how you're going to be able to send me a message. This is how you're going to be receiving them from me. To reply, let me send you a message right now. You reply back to me. Let's have the little demonstration.
P-3	I think patient education would be one thing that needs to be probably addressed more. When they can see the benefits of it. Trying to get our patients on board more. So that they are using it more.
P-3	Making sure that things are being done in a timely manner
P-3	It would be helpful to have some kind of handout that could list bullet points all the advantages of being on it. Like make an appointment, or refill request. I bet a lot of our patients aren't even aware of that.
P-5	... they are so well versed on it so when patients are using it they give positive feedback experiences so that the patients are more inclined to use it in the future. The patients try the portal and they don't get response.
P-8	We can't get the staff on board when they are having such a hard time getting the patients on board. I think it is because of the difficulty of signing up.
P-9	Better attitude. You reach a point where after so many patients have complained. Do I have to ask everyone to join the portal? Cause they're going to just be mad two weeks from now they can't remember their login.

Super User Community of Practice

Besides the training and monthly meetings, usually face-to-face, the method used for communication between meetings and archival of minutes was email. As agents of change within Revere Health, the super user group had no online community support system in place at the beginning of this study.

The communication and resource sharing needed to support organizational change across separate physician-managed clinics could be sustained by a Community of Practice (CoP) [29]. Workers who need to refine their practices can make use of a CoP so that learning can become "embedded" within the organizational infrastructure [31].

Upon recommendations of the researcher, and under the direction of the Applications Director who manages the super user team, a CoP was created. This CoP serves as an online source for policies and best practices, archived meeting minutes, and a long-term anchor of knowledge base for clinic super users. A blog capability is planned for the future to allow active dialog between team members that would assist with on demand questions and issues.

PHR Steering Committee

Revere Health is at the vanguard of accountable care in the state of Utah and patient engagement supported by a patient portal is

a cornerstone in the organizational strategic plan. While the Board of Directors provided some high level or oversight, Revere Health initially did not have a governing body to provide strategic guidance for the PHR implementation, workflow and process support. The super user team of clinic staff served as trainers and experts bringing skills, processes and best practices to their own clinics and were supervised by the Applications Director and the CIO.

In the summer of 2015, a FMH steering committee was formed to help manage FMH tracking and best practice throughout the organization. This committee mostly comprised of clinic office managers, serve as the direct link between the CIO and IT staff, and clinic healthcare providers. Office managers on the committee are currently responsible for assisting their corresponding group of clinics and providers in achieving the patient portal adoption and MU targets.

Business Intelligence and Reporting

At the onset of the case study, reporting and tracking of MU adoption and use targets was conducted by Revere Health analysts at the end of the stage attestation period. This lag reporting did not allow operational-level medical staff and providers to modify their practices to better meet MU targets.

In an effort to provide a formative reporting capability for stakeholders, in the summer of 2015, a monthly detailed monthly scorecard was implemented to provide a traffic light progress visual that signals at both the provider and departmental level the MU attestation status. Now these scorecards serve as calls to action as they are delivered to office managers and other key FMH stakeholders.

While monthly reporting has helped Revere Health gain greater adoption and MU of the PHR, a tool like a performance dashboard would allow super users and other healthcare professionals with actionable intelligence during the daily episodic encounters with patients [34]. The researcher created a prototype of a dashboard with a screen for View/Download/Transmit measures, educational resource tracking, task-based view, and finally an appointment view that allowed detailed drill down to planned patient encounters. As strategic action plans are refined at Revere Health and MU progress is tracked, best practices and lessons learned should be shared within a CoP for decision making and support of medical providers and staff [31].

Appreciative Inquiry Destiny Summit

The physician-managed clinics that were part of the case study organization were under regulatory pressures and incentive windows for achieving MU within a limited timeframe. The chair of the FMH steering committee invited key PHR stakeholders to attend AI mini-summit meeting. A luncheon was provided for the 13 attendees of the summit who included: the Applications Director, the chair of the FMH Steering Committee, a representative of the CIO, members of the FMH Steering Committee, and several super users.

Findings from the AI response analysis were presented to the group. A review of the organizational change related to MU tracking and reporting was also demonstrated. While there had been great strides by Revere Health to provide a monthly MU status report to office manager and other key stakeholders, the targets presented in these scorecard reports did not provide business intelligence that was geared toward staff and managers at the operational level in the clinics.

The researcher led a discussion on possible methods to provide actionable business intelligence to the organization. A working interactive prototype for a super user dashboard was demonstrated. Attendees gave verbal as well as written feedback on the usability and perceived usefulness of the performance dashboard.

6. CONCLUSIONS

Revere Health as the focus of the case study allowed the researcher to reveal beliefs and attitudes held by providers and clinical staff about the perceived usefulness of patient portals. The discovery and dream interview responses from providers and staff showed beliefs that a PHR could be used to empower patients to be more proactive in their own health [35]. The portal could also serve as a delivery mechanism for secure patient-provider communication. An online portal could also provide just the right educational materials in context to the patient's specific conditions, labs or medication management.

A set of best practices and strategies that could be used by physician-managed clinics to increase patient portal adoption and meaningful use was shared. The AI destiny step encouraged the organization to share best practices, inspire innovation and broadcast successes related to the transformation or change [36]. The final organizational change phase included creation of a steering committee and support tools that included a super user CoP and a prototype for a performance dashboard.

As Revere Health examined their current practices related to patient adoption and reporting of results, the organization was very successful in dramatically increasing their adoption rates and meeting MU targets for their patient portal. Many physician-managed clinics are working to develop an organizational strategy that supports altruistic goals of achieving quality care, improved patient-provider communication and patient engagement and satisfaction. When a PHR has both provider and patient engagement, these nebulous goals can be actualized.

7. REFERNECES

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