Patient Portals: Promise and Peril

HEIX 701 – Essential Information Management Skills

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Introduction

With the introduction of electronic medicals records, the possibility of using health information technology to increase patient engagement in their healthcare has been an area of great interest. First adopters associated with large, integrated health care systems lead the way in developing these access and interactional 'portals', but there is increasing interest and developing use at all strata of healthcare delivery. (Emont, 2011) While the development of patient portals technology in the US was initially found in middle and working class healthcare systems, there in an increasing effort to deploy patient portals to 'safety net' healthcare systems as well. (Kanaan, 2009)

While the goal of greater patient engagement in their healthcare would seem a logical pursuit, it has not been entirely clear the intuitive assumptions are entirely supported. (Goldzweig et al., 2013)Additionally, as with all emerging digital technologies, use of patient portal technology would appear to engender certain risks that healthcare provider services and patients must be aware of and address.(Chilmark Research, 2014)

This paper examines the patient portal as developed in the US healthcare system with a special view to an example of the patient portal: My HealtheVet.

Search History

A literature search was done on Medline, Embase and Google Scholar databases with the following search criteria:

- Patient Portal
  - AND
    - Risk
    - Benefits
    - Safety Net
- My HealtheVet
- Patient Health Records

History

Shortly after the expansion of the electronic medical record in that country in the 1990's, US healthcare informatics innovators began to conceive of the concept of the patient portal as a way of 'the patient owning their own record". (Kleinman, 2005) Simultaneously, certain large healthcare organizations in the US began broadly deploying electronic health record technology with the promise that it would not only provide a ready and shareable means of recording patient care data but also help to operationally connect the various parts of the organizations into a more unified clinical whole. As part of that effort, patient portal technology began to be developed. (Emont, 2011) Initially conceived as a method to allow patients to have access to portions of their medical record, it later was expanded to include secure communications and problem oriented educational efforts. (Emont, 2011)

As part of the US Affordable Care Act (ACA), electronic medical record keeping became highly incentivized within government-reimbursable healthcare systems. As part of that Act, patient engagement technologies, particularly patient portals were mandated to meet so-called 'meaningful use' criteria needed to obtain the lucrative reimbursement funding available in the ACA. (CMS - U.S., 2014)While not met with resounding welcome, this policy has ensured a much broader adoption of patient portal technology that may have otherwise been expected.(Terry, 2014)

Simultaneously, interest in use of patient portal technologies within 'safety net' health systems is now apparent. Studies have begun to appear on in the literature reviewing efficacy in patient portal technologies in engaging clients with chronic illness in an effort to get greater patient 'buy in' to their health. (Kanaan, 2009)

What is Patient Portal technology?

Patient portal technology refers to that part of the electronic health infrastructure devoted to allowing and encouraging direct patient access to their medical records and communication with their healthcare providers. (HRSA, 2014) Currently patient portal technology is being utilized to provide patient access to visit notes, lab study results, consultation requests and imaging studies. Additionally, patients may use portal software to ~~communication~~ communicate with their healthcare providers via secure, in house email as well as arrange for or request appointment times. Healthcare providers also may engage patients on a regular basis via portal technology to follow-up on recent visits, encourage health behaviour change or to remind clients of indicated preventative care. (Nazi, 2013)

Benefits of Patient Portal Use

Studies looking at the efficacy of patient portal technology have begun to appear in the literature but overall the extent of data available is limited. (Goldzweig et al., 2013)

In a 2012 literature review, Ammenwerth, et al reported on literature reporting outcomes date from patient portal use from a period extending between 1990 and 2011. ~~5~~ Five studies presented for distinct studies and found little demonstrable improvement in outcome between patient portal users and non-users. Parameters reflecting better communication including quicker visit scheduling, less phone calls and more e-messaging were noted, as was greater treatment adherence. (Ammenwerth, 2012)

A study of diabetes patients and their care providers looking at the value of patient portals for diabetes care found several key elements. Patient data review was cited by patients as helpful for better understanding the nature of their illness. Providers suspected selection bias. Online educational offerings were not widely accepted. Patients reported change in diet and exercise following review of online trend graphs. Providers agreed on this issue. Usability of the portal was challenging for both patients and providers. Access to clinical support was reported to be better than care as usual but, interestingly, the portal was used by allied health providers in the practice rather than the physicians – for whom the portal was ostensibly designed. Patients reported dissatisfaction with this as they were wishing more physician interaction. (Urowitz et al., 2012)

Zarcadoolas and colleagues reported a focus group-based study of non-high school graduates in 2013 that patient portal technology was felt to represent an advance in communication with

healthcare and welcome as a health technology. The setup of the portal interface for ease of use was a key factor of concern among interviewees. (Zarcadoolas et al., 2013)

Overall, patient portal technology appears to be well received, including many online testimonials about the benefits of use. Practices can also use patient portal technology as a marketing tool, distinguishing their practice from others.

Risks of Patient Portal Technology

As with any digital technology, certain risks become apparent once patient portal tech is deployed. Of major concern is the issue of information security within the portal system. In the US, patient health record information is regulated under the Health Insurance Portability and Accountability Act (HIPPA) which clearly defines the responsibility for assuring informational security of the patient record. As part of 'meaningful use criteria' of the ACA, adherence to the HIPPA is consider a must. (CMS - U.S., 2014)As such, providers of electronic medical records must certify that their product involves such HIPPA-compliant technology such as Secure Socket Layer (SSL) protocol transmission and auditing capability of communication and access. Within New Zealand, the Privacy Act of 1993 regulates the communication of healthcare information. (2014)

Additional concerns have been expressed. Patient portals do not offer broad access to the medical record in most cases, but is a portion of the record made available by the healthcare provider sponsor. As such, a complete picture of one's medical record is not entirely available online in most cases. Patient amendment or annotation to the record is not allowed. With the expansion of patient portal use by additional healthcare agencies, compartmentalization of information between agencies poses a risk of deteriorating the very advantage that a portal attempts to offer. (Chilmark Research, 2014)

Portability is another factor lacking in most patient portals. Information is available while a patient remains attached to a provider network but there is no regulatory requirement or consistent protocol that allows for data to be ported from one system to another. (Chilmark Research, 2014)Given the mobility of modern populations, this has be a part of the advent of the 'patient health record' which is under patient ownership and fully portable. (Mayo Clinic, 2014)

My Health eVet

My HealtheVet (MHV) is a patient portal system designed by the US Veterans Health Administration (VHA) to allow access to medical records by healthcare eligible military veterans. The VHA, the largest integrated health system in the US, deployed My HealtheVet on US Veterans Day 2003.(Kleinman, 2005) It now lists over 2.2 million active members (out of 6.4 million medical beneficiaries) logging in over 90 million online interactions since inception. It has allowed for over 40

million prescription refills to be requested since 2005. This ranks the MHV system as one of the largest patient portal systems in the world.

Veterans eligible to utilize My HealtheVet must be enrolled with the Veterans Health Administration in order to be allowed access.

MHV includes several features typical of a contemporary patient portal. These include:

- Self-entered information, including:
  - Health history
  - Health journals
  - Non-prescribed medications
  - Personal demographics
  - Health monitoring data (blood pressure, blood sugar, etc)
  - Allergies, immunizations and medical events
- Prescription refill requests
- Mental health information
- Medical information for patients
- Health and wellness reminders
- Health appointments
- Secure asynchronous messaging system with their VA health practice
- Medical records including notes, lab results, x-ray results, discharge summaries, medications and allergies – as listed by the VA record (Nazi, 2013)
- Veterans can grant eVault access to friends or family (Kleinman, 2005)

The issue of portability of data has been addressed by the VHA by use of the 'Blue Button' system which enables veterans to download copies of their electronic medical record and can be customized for individual preferences such as date inclusion and specific elements of the EMR to download. Additionally, by requesting a 'Continuity of Care' report, veterans can obtain their Blue Button data in an XML format that can be easily ported to other EMR systems outside the VHA.

Commented [JI1]: Not defined.

A study of early adopters of the Blue Button option revealed value for veterans in accessing their information in one place as well as outside providers finding the information presented by their VA clients useful. (Turvey et al., 2014)

Several studies have looked at efficacy elements of the MHV system. In a study conducted in 2013, a survey reported that of 688 veteran users of MHV, 84% agreed that the system was useful with personal access to health records ranked highest in perceived value. A recent review of the system (Nazi et al., 2013)showed 4 key findings with regard to the use of MHV:

1. Secure messaging is well received and utilized. Medical records viewing, medicine reconciliation functions and patient tracking/self-reporting of data are underutilized.
2. Elements of provider training, incorporation into an established work routine, access to patient-entered data and the use of asynchronous messaging were key to uptake by provider users of the system.
3. Asynchronous secure messaging had a catalysing impact on adoption of the patient portal generally.
4. Asynchronous messaging has had a dramatic positive effect in enhancing patient/provider interaction compared with the care-as-usual paradigm.(Haun et al., 2014)

Access to medical records via MHV has resulted in a perception of greater engagement and sense of communication with their healthcare providers compared with non-accessing veteran patients. (Haun et al., 2014)

Use by difficult to reach populations is a target for MHV deployment. Homebound vets have been studied and found that while interest is high, uptake of the technology per se is enhanced by the use of surrogates to demonstrate and facilitate learning the use of the technology.(Mishuris et al., 2014) Diabetics are a classic example of chronic illness that would benefit from the advantages MHV had to offer. They were studied and found to be very interested in use – most particularly if they had internet access at home. Even those without access remained interested a third of the time. (Cho et al., 2010)

MHV has been used for online survey data for purposes of increased preventative medicine care – especially HIV testing – and found to be an acceptable form of survey presentation.(Valdiserri et al., 2010)

Summary

Patient portals remain a technology in development yet are already showing potential for revolutionizing elements of the healthcare delivery system. Research in the area is just beginning and concerns remain (Nazi et al., 2010), but as the My HealtheVet demonstrates, the future remains bright for further innovative solutions in patient portals to facilitate patient engagement and disease prevention.

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