

Online Records Serve Patients, Clinicians, and HIM

Save to myBoK

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Patients want online access to their health information but clinicians and HIM professionals don't need any more work. The solution? An online medical record driven by the EHR. Here's one organization's success story.

If your own increasing Internet usage isn't proof enough, numerous surveys tell us that Internet access and use continues to grow in the United States. One 2002 poll revealed that approximately 66 percent of US adults were online.¹ In response, numerous industries offer Internet-based services. These days, consumers can manage their finances over the Internet, for example, or make travel arrangements. The next logical step is online access to health information and related services. The vast majority of adults online want not only to be able to communicate with their physicians via the Internet but also to be able to make appointments, ask questions, request prescription refills, and receive diagnostic test results. About a third of these patients say they would be willing to pay for such online services, and most say that this would influence their choice of doctors and health plans.²

To meet these expectations, the Cleveland Clinic decided to pilot its e-Cleveland Clinic online medical record for patients in one of its Family Health Centers. Below, we'll explore the functionality, policies and procedures, and security needed for this exciting new connection between clinicians and patients.

EHR as a Foundation

To evaluate the feasibility and utility of an online record for our patients, we have been conducting a pilot at one of the Cleveland Clinic Family Health Centers during the past year. The program aimed to meet and exceed patient demands, improve patient access to services, enhance patient-clinician communication, facilitate clinical work flow, and increase patient loyalty to their physicians and our organization.

The backbone of Internet-based healthcare services is the Cleveland Clinic Foundation-wide ambulatory electronic health record (EHR). There are currently more than 2.5 million patients in the EHR with more than 175,866 encounters documented per month; 758 staff physicians, 520 residents, and 130 fellows use the system with an additional 3,970 support staff end users. A companion product to our EHR, the online record provides patients 24-hour access via the Web to select portions of their EHR and offers several e-health services. For example, physicians can release test results to patients. This process is convenient for the patient and improves the office work flow by eliminating the need for physicians to create letters for their secretaries to mail to patients.

Record Provides Data, Services

For the pilot, we selected functionality that allowed patients to view their:

- problem list
- allergies
- medications
- test results (selected for release by their physician)
- institutionally determined health maintenance reminders
- customer service messages
- upcoming and prior visits
- vital signs and instructions from any prior visit

Patients, in turn, are able to:

- request an appointment online
- request a prescription renewal online
- view patient-friendly information about their medical problems, medications, and results
- request changes to specific demographic information, such as their address or telephone number

Policies and Procedures: What's Best for the Patient

Prior to the implementation, we solicited input on policies and procedures from multiple sources. We conducted four patient focus groups, held multiple physician advisory council meetings, and assembled a multidisciplinary implementation team comprised of clinical, marketing, information technology, and legal representatives. The input from these groups was invaluable in shaping the policies regarding account requests, access, and system functionality for the project.

Focus group participants made it very clear that they did not want to receive any bad news over the Internet. In response, our policy states that all patient test results are to be released to the online record only at the physician's discretion and not in any sort of automated fashion. Therefore, the availability of results varies depending on the individual physician's approach and attitudes.

The multidisciplinary team decided that the system would not be made available for minors, because it would be difficult to control access in the event of custody changes and for emancipated minors. Clinicians also expressed concern that adolescent patients might be reluctant to share information if they thought that their parents could ever access it. In addition, the team decided not to allow patients to officially designate a "proxy," that is, an individual, such as the adult child of an elderly patient, who would be given access to the patient's online record at the patient's request. Though the team felt that this could be useful for those caring for elderly parents, there were concerns that sign-up and access management could be problematic and pose security risks.

The multidisciplinary team was also responsible for creating the terms and conditions of use, patient invitation letter, and online record application form. These documents are sent to patients with the online record invitation letter roughly two weeks prior to their next scheduled appointment. Patients are required to complete and submit the application and read and sign the terms and conditions of use before they are given an access code and password to log on to the system for the first time.

The terms and conditions contain several important pieces of information, including:

- an explanation of the services offered
- a security statement and disclaimer
- a disclaimer pertaining to third-party sites that can be accessed from the online record

In addition, patients are informed that:

- the system is not to be used for any emergent or urgent medical matters
- for security reasons, they must never share their passwords
- they may decide to discontinue use of the service at any time
- the Cleveland Clinic may discontinue the patient's service for violations of the terms and conditions
- reproduction of the site content is prohibited

To verify the identity of the patients who request an online record account, the Cleveland Clinic requires patients to present their application in person at the clinic and to show their identification. Once patients have signed up, they can pick up their initial access code in person or receive this information via US mail. After the initial login, the user must change the assigned access code to a personally selected user ID and password.

Once a patient has signed up and their application has been processed by the information technology department, the signed terms and conditions of use is filed with the patient's paper medical record.

Safety on all Sides

Every time the patient logs on to the online record to access his or her health information or use the e-health services, a secure socket layer (SSL) is established between the patient's computer and the online record Web server. The Web server resides in the Cleveland Clinic's "demilitarized zone" (DMZ) between two firewalls: one firewall faces the Internet, and the other faces the Cleveland Clinic's private network. Functioning as a neutral zone, the DMZ prevents users from directly accessing the Cleveland Clinic server.

When a user logs on to the online record Web server, the message is transmitted through the firewall to the internal data repository behind the internal-facing firewall. Therefore, no secure patient data permanently resides on the online record Web server in the DMZ; the information is generated anew each time a patient logs on to request information or services. Once the patient makes the request and the data is temporarily moved to the online record Web server, the data is then re-encrypted and transmitted back across the Internet to the patient's computer. At this point, the data is removed from the server in the DMZ.

An additional layer of security is provided by two sets of audit logs: all activity between the online record server and the internal database is audited, as well as all patient requests into the online record server.

Finally, because provider access to the Cleveland Clinic EHR is role-based and tightly regulated, it was not necessary to modify the system access security levels of healthcare providers in any way for the online record project.

Patient, Physician Attitudes Shape Usage

Thus far, the pilot project at the Family Health Center has met the original goal of enhancing the practice of medicine without increasing clinicians' or HIM professionals' workloads. Both physician and patient use of the online record seem to depend on their comfort level with sharing and viewing sensitive medical information over the Internet. This requires a shift in attitude for both physicians and patients.

For physicians to be comfortable sharing patient results over the Internet, they need to be convinced of the system's security. Further, they should feel confident that their patients can appropriately interpret test results—such that the information will not generate unnecessary concern on the part of the patient. Similarly, the patients need to trust the system's security as well as feel confident that their physicians will use the system to appropriately share test results.

As we learned from our focus groups, patients still want to connect with their physicians in person or over the phone to receive test results that indicate bad news. For normal results, patients want access as soon as possible. As technology continues to enhance Internet security, patient and physician attitudes will still dictate the rate at which e-health services are adopted.

Notes

1. Taylor, Humphrey. "Internet Penetration at 66 Percent of Adults (137 Million) Nationwide." The Harris Poll 18 (April 17, 2002). Available online at www.harrisinteractive.com.
2. Taylor, Humphrey and Robert Leitman, eds. "Patient/Physician Online Communication: Many Patients Want It, Would Pay For It, and It Would Influence Their Choice of Doctors and Health Plans." *Health Care News* 2, no. 8 (April 10, 2002). Available online at www.harrisinteractive.com.

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Article citation:

Foster, Erica, et al. "Online Records Serve Patients, Clinicians, and HIM." *Journal of AHIMA* 74, no.8 (September 2003): 34-37.

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