

The Electronic Gateway

Patient portals and the Internet can empower patients and providers to deliver not only better services but also to improve health care by reducing paperwork and increasing productivity.

By Hector L Santiago

> IT IS SEVEN O'CLOCK IN THE morning and an outpatient nurse in the clinic has just opened the electronic health record (EHR) at her nursing station after checking the schedule of patients for the day. The nurse knows that it will be a busy day with patients darting in and out of the clinic. In addition, she

will need to assist with refill requests along with any other questions that patients might have during the day.

As part of her daily morning routine, she checks the inbox in the EHR and notices a multitude of new messages ranging from appointment requests to refills to simple questions, as well as messages from the providers approving the prescription refills. With one click, she can fax the approved refills to the local pharmacy without printing anything; she can also initiate a message to inform the patient of the refill.

The nurse remembers when all of this was done on paper. Since the introduction of EHR software, the nurse has reduced the amount of time spent on the phone and chasing down charts. She has witnessed an increase in productivity within the clinic and improved communication with her patients.

In health care, the use of EHRs is beginning to flourish as the industry moves toward a paperless world. This move, coupled with the increased use of the Internet, is creating a demand from patients to be able to communicate with their providers in a safe and secure manner through the use of patient portals.

A patient portal is a Web-based interactive portal that connects securely to an EHR via the Internet. This connection allows the patient to have access to tools that can help improve the care of the patient while increasing the efficiency of the organization's staff.

Portal evolution

Although EHR applications have been around for some time, it has been the evolution of the Internet and its

growing popularity that have created a demand for electronic communication. The Internet has increased the flow of information on a massive scale and has evolved into a part of our everyday lives. Some of the more popular uses of the Internet involve communications such as e-mail, instant messaging and, more recently, Voice over IP (VoIP) or digital phone. The Internet is already being used by patients to pay their medical bills, as health care organizations have implemented online billing systems. Patients can also view charges and arrange for payment plans if necessary.

In addition, countless customers are beginning to e-mail their providers requesting advice. This has increased demand for electronic services such as requesting prescription refills, viewing lab results and scheduling appointments. However, e-mail is not the recommended tool for these types of communication because of security concerns. Many e-mail programs can encrypt outgoing mail, but they only work if the recipient's e-mail application can decrypt the message, which is not often the case.

Web patient portals can ease the worries of security by providing strong Web-based encryption between the customer and the health care organization. Staff can also help providers streamline this communication. Patient requests such as appointments and prescription refills can be triaged and quickly resolved while reducing the amount of paperwork that would normally be generated.

The technology

In 1996, the University of California San Diego began the Patient-Centered Access to Secure Systems Online (PCASSO) project to allow patients and providers to use the Internet to access medical records from anywhere. PCASSO uses Secure Sockets Layer (SSL) encryption to

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securely transmit patient and provider requests over the Internet. It is widely used by companies such as VeriSign to secure credit card transactions. However, patients do not use the Internet to access information. Instead, they use downloaded client software to access the PCASSO server via the Internet. PCASSO's security was developed and implemented before HIPAA's Security Rule was written and published, yet it passed all of its security requirements.

Since this research project began, other companies such as WebMD began developing secure Web sites using SSL encryption to allow patients to post clinical data for their providers. In addition, many of today's patient portals prefer the Internet versus client-based software because of the popularity of both broadband and DSL Internet access.

The portal

Perhaps the biggest advantage of the

patient portal — aside from the secure communication features — is its ability to be customized. An organization can choose the information that patients will be permitted to see. This feature is also customizable by departments within a large organization so that patients see only certain information depending on which specialty they choose to access.

The protocol of accessing a patient portal varies across organizations. One popular application requires the provider to place an order in the EHR to give the patient access during the patient's visit. The benefit of this step is that the system verifies the identity of the patient accessing the portal during the visit; therefore, the correct person will access his/her own record. Next, the patient uses the Web site address to access the site and his/her username and a temporary password will be mailed to the physical address in the system.

The type of information that a user

can view will vary by organization. The following examples demonstrate the type of the information that can be made available to patients:

- send and receive secure messages;
- view medical history;
- view medication history;
- request appointments;
- request medication refills; and
- view lab history and results.

It is up to the individual organization to implement some, if not all, of the features. Many other features and information sources are available depending on the application that an organization chooses to obtain.

The portal itself is designed to be user-friendly. It can include not only the information that the organization allows patients to view, but also the capability to incorporate links to health information and services that the organization provides.

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Benefits

Patients benefit from the ease of access to the system — with links to important information. Patients can communicate with their providers, schedule appointments, ask for referrals, request prescription refills, and check and update medical history. The addition of Web links to health information and other health sites will help keep the patient informed. In addition, the organization can integrate its billing into the patient portal, thus providing customers with a true one-stop-shopping experience for all of their health care needs.

Organizations cannot only customize the system, they can approve or deny access to patients and revoke access to patients as they deem necessary. In addition, they can integrate different settings of care to allow patients to communicate across different clinical specialty settings and providers. More important, they can improve the delivery of medical services through:

- improved management of medical problems;
- substitution of more efficient communication for less efficient communication; and
- improved business practices through more efficient patient registration and billing.

As health care organizations move toward the goal of a paper-free world, the need to communicate electronically will only increase. The evolution of the Internet has opened the doors to new possibilities. From communication to paying bills to research, the combination of patient portals and the Internet can empower patients and providers to deliver not only better services but also to improve health care by reducing paperwork and increasing productivity. **HIE**

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